

1990

HARVEST STRATEGY

KODIAK AREA COMMERCIAL SALMON FISHERY

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## TABLE OF CONTENTS

<u>ITEM</u>	<u>PAGE</u>
Introduction.....	1
Harvest Expectations.....	3
Season Opening Times and Dates by Species.....	4
Fishing Periods.....	5
E.O. Announcements.....	8
Regulations.....	10
Fish Tickets.....	12
Fishery Specific Management Plans.....	13
Appendix:	
Table 1. Graphics for Projected 1990 Salmon Harvest..	23
Table 2. Graphics for Sockeye Salmon Escapement Requirements.....	26
Table 3. Chart of Districts and Sections.....	31

## INTRODUCTION

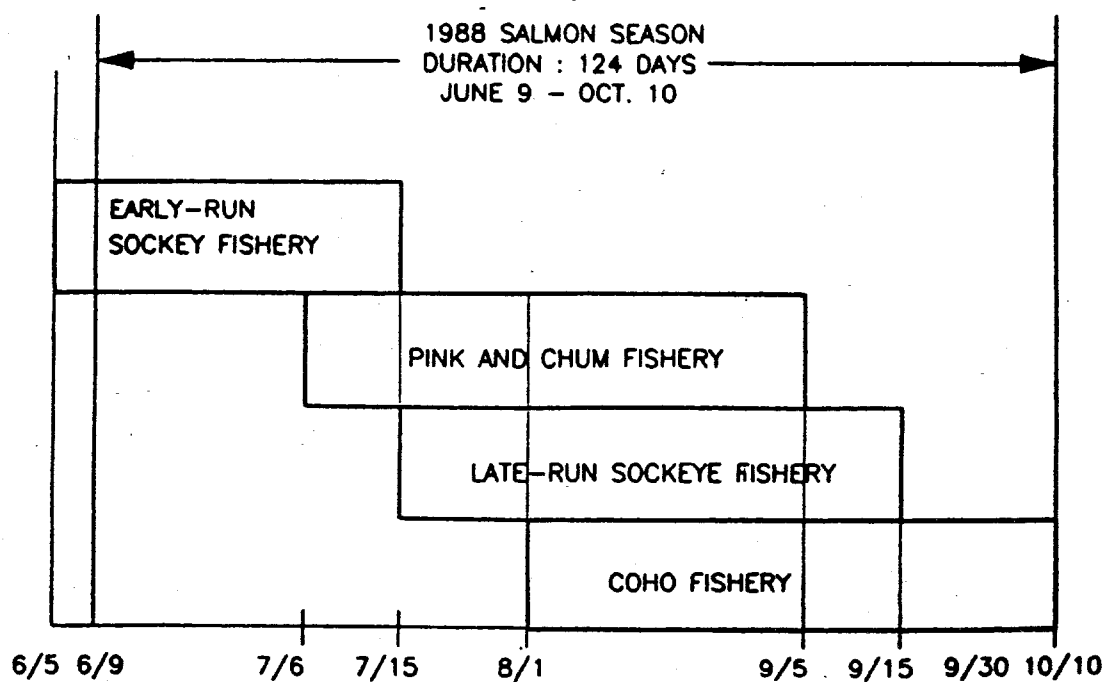
The 1990 salmon harvest strategy for Area K salmon management will, as in the past, emphasize these three management criteria:

- (1) **To ensure that the 1990 escapement occurs in the proper magnitude and distribution in order that the potential for maximum production for subsequent returns is established.**
  - The results of ADF&G's 1990 management activities will directly affect the following future commercially targeted returns:
    - 1992 pink salmon return
    - 1993 and 1994 coho salmon returns
    - 1993, 1994, and 1995 chum salmon returns
    - 1994, 1995, 1996 sockeye and chinook salmon returns
- (2) **To provide for an orderly harvest on the highest quality salmon by pursuing an aggressive harvest approach which maximizes harvest opportunities during each fishing period.**
  - This has always required a species-oriented approach which:
    - For sockeye and coho salmon emphasizes using in-season weir escapement data on major systems to determine fishing time by geographical area.
    - Fishing time on minor sockeye and coho systems without fish weirs is determined by ADF&G's perception of run strength for these systems.
    - For pink and chum salmon emphasizes using pre-season forecasts initially to determine fishing time and then provides for in-season adjustments in fishing time as the actual run strength becomes more apparent during normal peak harvest periods.
- (3) **To adhere to the biological and allocative requirements of all Board of Fisheries Management Plans and to ensure that traditional fishing opportunities for all commercial gear types and for all user-groups occur in a manner consistent with the criteria identified in (1) and (2) and with the expectations of the user groups.**

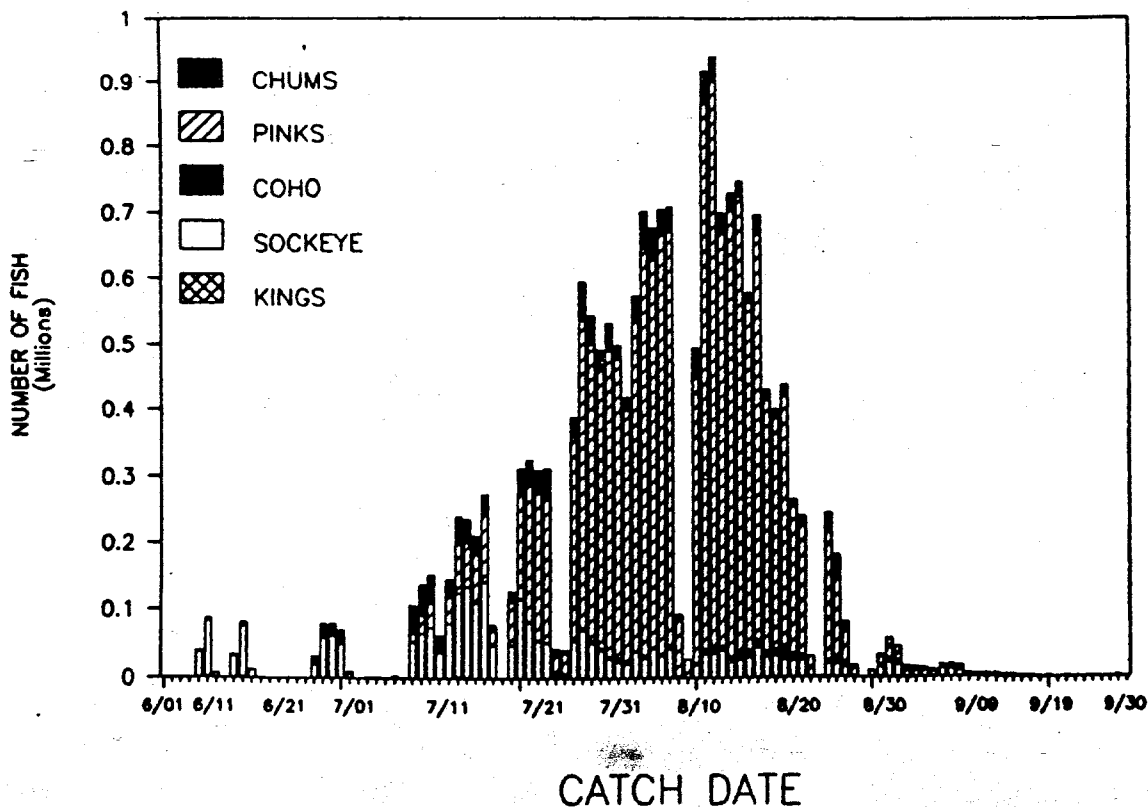
An overview of how ADF&G expects to manage the 1990 salmon fishery to implement the aforementioned harvest strategy is detailed in the following pages. Along with this overview, the management chronology identified on the next page can be used as a guide to clarify why in-season adjustments in harvest strategy, as dictated by species-specific management requirements, are needed. For example, sockeye management requires that fishing time and areas open to fishing be strictly regulated by the sockeye escapement information obtained from eight salmon weirs used to enumerate adult salmon upstream migrants. Pro-rating fishing time for sockeye solely on the basis of pre-season expectations, other than for the June 9 commercial test fisheries, is not an acceptable method of managing Kodiak's sockeye stocks as history has proven. However, for pink salmon management, pro-rating fishing time based upon pre-season expectations is mandatory for prosecuting Kodiak's pink salmon fishery successfully. This can be done with very little chance of incurring adverse effects on future production and is the most acceptable way of managing the harvest of Kodiak's relatively large pink salmon returns. Chum and coho salmon require a blend of these two management approaches in that both species are initially harvested as a bi-catch in fisheries where fishing time is generally targeted on pink salmon. Targeted management and stock-specific fisheries on chums and coho requires proper run strength assessment before these fisheries can occur. This requires that a combination of both weir and aerial escapement data and assessment of fish "build-ups" be used along with an in-season assessment of bi-catch levels of these species to determine if the post-bi-catch returns can adequately support additional near-terminal harvests.

The management chronology shown below provides a general overview of when species-specific harvest strategies are applied and the 1988 graphical summary of the total salmon harvest by species clarifies why these harvest strategies are applied in the chronology shown.

## KODIAK COMMERCIAL SALMON FISHERIES MANAGEMENT CHRONOLOGY



## KODIAK MANAGEMENT AREA 1988 SALMON HARVEST BY SPECIES



# HARVEST EXPECTATIONS

The total 1990 commercial salmon harvest by species is expected to be:

<u>Kings</u>	<u>Reds</u>	<u>Coho</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
8,000	2,540,00	190,000	11,790,000	705,000	15,233,000

A breakdown of harvest expectations by geographical locations is listed below along with comparisons to the 1988 actual harvest.

<u>FISHERY</u>	<u>1988 HARVEST ACTUAL</u>	<u>1990 HARVEST PROJECTED</u>
<u>Early Run Sockeye Salmon Fisheries (6/9-7/15)</u>		
Cape Igvak	.000	.060
Karluk	.150	.250
Ayakulik	.260	.468
Fraser	.296	.394
Upper Station	.092	.020
Minor Systems	.026	.040
Other	.429	.070
Sub-Total	1.253	1.302
<u>Late Run Sockeye Salmon Fisheries (7/16-9/15)</u>		
Cape Igvak	.034	.115
Karluk	.236	.550
Ayakulik	.150	.312
Fraser	.000	.000
Upper Station	.750	.211
Minor Systems	.005	.020
Other	.271	.030
Sub-Total	1.446	1.238
<u>Coho Salmon Fisheries (8/1-10/1)</u>		
Afognak (Hatchery)	.000	.000
Afognak (Natural)	.079	.027
Westside	.091	.095
Alitak	.030	.025
Eastside/Northend Kodiak	.048	.022
Mainland	.055	.032
Sub-Total	.303	.190
<u>Pink Salmon Fisheries (7/6-9/5)</u>		
Afognak (Hatchery)	2.426	2.890
Afognak (Natural)	.307	1.850
Westside Kodiak	6.521	3.350
Alitak	.386	.400
Eastside/Northend Kodiak	2.874	1.600
Mainland	1.748	1.700
Sub-Total	14.262	11.790
<u>Chum Salmon Fisheries (7/6-9/5)</u>		
Afognak (Hatchery)	.000	.000
Afognak (Natural)	.087	.035
Westside Kodiak	.484	.325
Alitak	.093	.055
Eastside/Northend Kodiak	.369	.060
Mainland	.392	.230
Sub-Total	1.426	.705
GRAND TOTAL (6/9-10/15)	18.691	15.225 <sup>1</sup>

<sup>1</sup> Does not include an estimated harvest of 8,000 king salmon.

**SEASON OPENING TIMES/DATES BY SPECIES**  
(For 1990 Kodiak Commercial Salmon Fishery)

<u>FISHERY</u>	<u>EARLIEST OPENING TIME/DATE</u>	
	<u>Firm Time/Date</u>	<u>Approximate Time/Date</u>
<b><u>Early-Run Sockeye Salmon Fisheries</u></b>		
- Cape Igvak Section <sup>1/</sup>	-	12:01 A.M. June (?)
- N.W. Kodiak District <sup>2/</sup>	12:00 Noon June 9	
- Inner Ayakulik and Outer Ayakulik Sections <sup>3/</sup>	-	Low tide June 9
- Alitak District <sup>4/</sup>	12:00 Noon June 9	
- Minor Systems <sup>5/</sup>		
Uganik	-	12:00 Noon June 15
Paramanof	-	12:00 Noon June 15
Pauls/Perenosia	-	12:00 Noon June 15
Litnik	-	12:00 Noon June 15
Saltery	-	12:00 Noon June 15
Kafliia/Swikshak	-	12:00 Noon June 15
<b><u>Pink/Chum Salmon Fisheries<sup>6/</sup></u></b>		
- Mainland District	12:00 Noon July 6	-
- Afognak District	12:00 Noon July 6	-
- N.W. Kodiak District	12:00 Noon July 6	-
- S.W. Kodiak District	12:00 Noon July 6	-
- Alitak District	12:00 Noon July 6	-
- Eastside Kodiak District	12:00 Noon July 6	-
- N.E. Kodiak District	12:00 Noon July 6	-
<b><u>Late Run Sockeye Salmon Fishery</u></b>		
- Cape Igvak Section <sup>7/</sup>	-	12:01 A.M. July (?)
- All remaining late-run sockeye fisheries <sup>8/</sup>	-	12:00 Noon July 15
<b><u>System Specific Coho Salmon Fisheries<sup>9/</sup></u></b>		
- Mainland District	-	12:00 Noon Sept. 1
- Afognak District	-	12:00 Noon Aug. 15
- N.W. Kodiak District	-	12:00 Noon Sept. 1
- S.W. Kodiak District	-	12:00 Noon Sept. 1
- Alitak District	-	12:00 Noon Sept. 1
- Eastside Kodiak District	-	12:00 Noon Sept. 5
- N.E. Kodiak District	-	12:00 Noon Sept. 5

<sup>1/</sup> Actual opening date will be determined by sockeye escapement level into the Chignik River system. Fishing time will be in 24 hour increments.

<sup>2/</sup> Actual opening time/date is as shown. This opening is considered a commercial test fishery; fishing time for this initial period will be 33 hours (12:00 noon 6/9 through 9:00 P.M. 6/10).

<sup>3/</sup> Actual opening date will be determined by sockeye escapement level into Ayakulik River and opening time by low tide timing during daylight hours.

<sup>4/</sup> Actual opening time/date is as shown. This opening is considered to be a commercial test fishery; fishing time for the initial period will be 33 hours (12:00 noon 6/9 through 9:00 P.M. 6/10).

<sup>5/</sup> Actual opening time will be determined by sockeye escapement levels into minor systems. Fishing time for this period will be 33 hours (12:00 noon through 9:00 P.M.)

<sup>6/</sup> Actual opening time/date is as shown. Fishing time for this initial period will be 57 hours (12:00 noon 7/6 through 9:00 P.M. 7/8). See section on Fishing Periods for additional information.

<sup>7/</sup> Actual opening date will be determined by sockeye escapement levels into the Chignik River System. Fishing time will be in 24 hour increments.

<sup>8/</sup> Actual opening date for system-specific fishing time will be determined by sockeye escapement levels into major systems. All fishing periods will begin at 12:00 noon and end at 9:00 P.M. prior to 8/16 and end at 6:00 P.M. from 8/16 to season's end.

<sup>9/</sup> Actual opening date for system specific fishing time will be determined by overall coho run strength evaluation and by escapement levels into major systems and into minor systems with reliable escapement data.

## FISHING PERIODS

- ALL FISHING PERIODS WILL BE BY EMERGENCY ORDER and will generally be based upon in-season assessment of actual run strength.
- ALL FISHING PERIODS WILL BEGIN AT 12:00 NOON AND END AT 9:00 P.M., except that:
  - The Cape Igvak fisheries will always begin at 12:01 A.M. and end at 12:00 Midnight during the period 6/5 - 7/25.
  - The Inner Ayakulik Section fisheries will always begin at approximately low water. These will be daylight openings with pre-announced opening times and these fisheries will be initiated by ADF&G "flare openings".
  - Beginning on August 16, all fishing periods will end at 6:00 P.M. instead of 9:00 P.M.
- ADVANCE NOTICE FOR EACH FISHING PERIOD
  - All advance notice time will be based upon the initial announcements being made on SSB frequency 4125 Khz, by Peggy Dyson following her 6:00 P.M. daily weather broadcasts.
  - For the Cape Igvak fishery, the initial fishing period will have at least a 36 hour advance notice. All subsequent fishing periods will have at least 18 hours advance notice.
  - For the June sockeye fisheries in the Alitak, S.W. Kodiak, and N.W. Kodiak Districts, the initial fishing periods will have at least a 48 hour advance notice; this includes the normal June 9 fishing period for the Alitak and N.W. Kodiak Districts and the approximate June 14 fishing period for the N.W. Kodiak District.
  - All subsequent fishing periods for the remainder of the Kodiak Area prior to July 6 will have at least 18 hours advance notice.
  - For the initial pink/chum fisheries which will begin at 12:00 noon on July 6, at least 48 hours advance notice will be provided.
  - All subsequent fishing periods for the remainder of the Kodiak Area after the initial July 6 fishing period will have at least 18 hours advance notice.
  - All extensions in fishing time from a pre-announced fishing period will have at least 3 hours advance notice.

## LENGTH OF FISHING PERIODS

**SOCKEYE:** In general, each fishing period targeting on sockeye for both early and late runs to all major systems will be dependent upon "weir" escapements. This will also apply to those minor "weired" systems targeted by the commercial fishery.

The exceptions to this will be the normal June 9 commercial test fisheries in the Alitak District and the N.W. Kodiak District (see statistical map on page 32 showing approximate boundaries of these districts). Both of these commercial test fisheries will be 33 hours long extending from 12:00 noon Saturday June 9 through 9:00 P.M. Sunday June 10. Additionally, a second 33 hour commercial test fishery will occur in the N.W. Kodiak District on approximately June 14 or 15 depending upon when this fishery can be coordinated with other terminal sockeye fisheries in order to spread the fishing effort. This second commercial test fishing period will only occur on those years when harvestable surpluses of sockeye are projected for Kodiak's three (3) major early-run sockeye systems; 1990 is such a year. Additional fishing time in the Alitak District

will depend on the results of the June 9 commercial test fishery and the ADF&G test fishery as well as weir escapements and positive build-up trends. (See Alitak District Management Plan)

In conjunction with this second commercial test fishing period in the N.W. Kodiak District will be the initial 33 hour fishing period targeted for healthy minor sockeye systems (Uganik, Saltery, etc.). Specific management units (sections) open for this fishery will be dependent upon the health of the pertinent systems associated with these units. The E.O. announcement for this opening will specify which sections are to be opened.

In the case of the Igvak sockeye fishery, fishing periods in the Cape Igvak section will continue to be in increments of 24 hours running from 12:01 A.M. to 12:00 Midnight. Fishing time will be dependent upon an evaluation of the Chignik System sockeye run, the predominant contributing stock harvested in this section. A review of the Cape Igvak management plan listed in this document should clarify the biological and allocative requirements of this plan. For the 1990 season, as in recent past seasons, fishing time will initially be allocated in the Cape Igvak Section based upon the criteria listed in paragraph (c) of the plan.

For most late-run sockeye stocks, a portion of the harvestable surplus is commonly taken as bi-catch during targeted pink salmon fishing periods. On even-cycle years this bi-catch becomes significant because of the need for targeted pink salmon fishing opportunities in the S.W. Kodiak District where normally no sockeye bi-catch occurs for the odd-cycle years. The Karluk and Ayakulik systems, major sockeye producers for Area K, characteristically yield extreme even-year dominance for pink salmon production; total pink production from these two systems can account for 20 - 30% of the entire management area's even-year pink production. Consequently, a "blended" management strategy is needed to insure that minimum escapements are achieved for each species into each system and that desired escapement requirements are not exceeded. The Westside Kodiak Management Plan on page 21 provides an overview of which stocks are targeted for management during which time period.

### Pink Salmon

The total 1990 projected pink salmon harvest of 11.790 million fish represents a harvest slightly better than the 15 even-year average of 10.52 million, however that portion attributed to natural production, 8.900 million, represents below average production while the hatchery production portion, 2.890 million, represents above average production. As identified in the "Harvest Expectations" table on page 3, natural pink salmon production should be below that experienced in the brood year of 1990 for the three major geographical portions of Area K, namely the Westside Districts, the Alitak District, and the Eastside Districts. Escapements were generally good for most major systems in 1988, however only minimum levels were achieved into the Karluk, Ayakulik, Zachar, Dog Salmon and Deadman Bay systems. Since the pre-emergent fry densities from these systems for the 1990 return was at least equal to or better than the fry densities which yielded the 1988 return to these systems, it is conceivable that a larger 1990 return could have been projected for these systems if escapement levels in 1988 had favored the desired rather than the minimum levels, however overall the major source of lowered production for the 1990 return was the scouring which occurred in primarily the Westside and Eastside Districts; heavy rains and runoff in the fall of 1988 appears to have been a major factor in yielding the unexpectedly low densities observed in these major systems where the 1988 escapements were generally very good to excellent.

The 1990 harvest strategy for Area K pink salmon management will, as in the past, emphasize the three critical management criteria identified in the Introduction of this document.

In consideration of the aforementioned 1990 return and the harvest strategy goals and in consideration of the expected effort level and the increasing trends in gear efficiency observed in recent years, the 1990 pattern of fishing periods for those management units where pink salmon are the targeted management species is expected to vary in fishing time from 2-1/2 days to 4-1/2 days per week during the time frame of July 6 through approximately August 20.

Listed on the next page are projected fishing period scenarios which can be used for planning purposes by both ADF&G and industry. Changes in these scenarios should be expected if significant deviations in the actual pink salmon return occurs.



- **First Period: 2-1/2 days/57 hours - 12:00 July 6 through 9:00 P.M. July 8.**
  - This initial period has consistently been of 2-1/2 days duration in recent years. This period provides harvest data important for early run-strength assessment for Area K's entire pink run as well as for specific chum stocks. No extensions in fishing time based on pink or chum harvests would occur during this period.
- **Second Period: 3-1/2 days/81 hours - 12:00 Noon July 13 through 9:00 P.M. July 16.**
  - This second period will help ensure that early-run pink salmon stocks and several major chum salmon stocks are adequately harvested per the stated management goals and that at least minimum escapement requirements are ensured. Assessment of run strength for both species will still emphasize harvest data, however bay build-up of both species will be somewhat apparent this period, especially for chums. No extensions in fishing time based either on harvest data or on early fish build-ups would occur during this period
- **Third Period: 3-1/2 days/81 hours - 12:00 Noon July 20 through 9:00 P.M. July 23.**
  - This third period will occur following a 3-1/2 day closure to allow a major influx into terminal areas of pinks and chums to enhance the "buildups" of potential escapement fish. This is the first fishing period when the combination of harvest and early escapement/build-up information will provide the initial indications of actual run strength for the major pink salmon fisheries. While no extensions in fishing time are common during this period, the assessment results of this period have commonly resulted in reduced fishing time during the fourth period for years of weaker than expected pink returns.
- **Fourth Period: 3-1/2 days/81 hours - 12:00 Noon July 26 through 9:00 P.M. July 29.**
  - This fourth period is a very critical period in that the peak harvest dates and a fairly accurate assessment of total run strength should be evident by period's end. Commonly, extensions in fishing time occur off of this period for years when returns are equal to or stronger than expected.
- **Fifth Period: 4-1/2 days/105 hours - 12:00 Noon August 1 through 9:00 P.M. August 5.**
  - This fifth period should yield the peak harvest date and should be the peak harvest period in 1990 provided normal run timing occurs. If pre-season expectations appear valid extensions in fishing time could occur in portions of the management area. This period commonly yields the first significant announcement of differential fishing time by management unit as heavy production areas are targeted for extensions while moderate or lower productions areas are not.
- **Sixth Period: 3-1/2 days/81 hours - 12:00 Noon August 8 through 9:00 P.M. August 11.**
  - This sixth period should be the first post-peak period and is important from the standpoint that the returns to major late-production systems should be evident by period's end. Also this is a critical period for seriously considering expansions in closed water sanctuaries to enhance escapement levels and to make a final evaluation of run strength to determine if drastic reductions in fishing time are needed for the remaining periods to ensure adequate escapement; a strategy for "topping-off" escapements for all systems stems from this period.
- **Seventh Period: 3-1/2 days/81 hours - 12:00 Noon August 14 through 6:00 P.M. August 17.**
  - This seventh period is when a more "blended", multi-species management approach is needed for those sections where pinks had been the target species for the previous six periods; this approach is actually implemented in the Alitak District by the sixth period. Emphasis will still be on the harvest of excess good quality pink salmon and on achieving at least minimum pink escapements where applicable, however major concerns will be directed toward the run strength of late-run sockeye and chum salmon.

- Eighth Period: 2-1/2 days/57 hours - 12:00 Noon August 22 through 6:00 P.M. August 24.
  - This eighth period will be primarily a "clean-up" period for most pink salmon stocks in the sense that all escapement requirements should be mostly assured and all excess pinks of acceptable quality should be available for harvest in near terminal areas where applicable. Again this period will require a major emphasis on multi-species management; it is a critical management period for late-run sockeye and chum stocks as well as early-run coho stocks.
- CHUMS AND COHO A large portion of the 1990 Kodiak chum and coho salmon harvest will occur as bi-catch in non-terminal locations during fishing periods having fishing time associated with major pink salmon fisheries these periods of targeted pink salmon fisheries. System-specific chum and coho salmon fisheries which occur during that time period will commonly result in pertinent management units having less fishing time than management units targeting primarily pink salmon stocks. This approach emphasizes the use of more terminally located management units for targeted and coho management (e.g. for chum: Zachar Bay section, Inner Kukak section, Kizhuyak section, etc! and for coho: Shuyak Island section, Inner Ugak Bay section, etc!).

#### EMERGENCY ORDER IN-SEASON ANNOUNCEMENTS ("GETTING THE WORD")

- Fishing period announcements are never predictable because the fishery is managed on an evaluation of sporadically compiled data, i.e. (1) escapements via weir counts and/or aerial surveys, (2) harvest trends (total catch and C.P.U.E.) and (3) information on fish "build-ups".
- Once enough information has been collected to determine adequate fishing time to harvest surplus fish an emergency order is "immediately" issued in the following manner:
  - 1/ A news release is constructed detailing:
    - a. The date, time, and number of the emergency order announcement.
    - b. The length of the fishing period.
    - c. The opening and closing times and dates.
    - d. The areas open to fishing.
    - e. The areas closed to fishing (those sections not listed as being open).
    - f. The location of "closed water" marker adjustments.
  - 2/ Copies of the news release are posted on the windows of the entrance doors to the Kodiak ADF&G office.
  - 3/ Copies are made available for walk-in traffic to the office during working hours; for after-hours availability, copies are stored in a manila envelope taped to the window by the main entrance door.
  - 4/ The news release is recorded on a 24-hour recorded message phone (Number 486-4559).
  - 5/ The news release is made available to three local radio stations (K.V.O.K., K.M.X.T., and K.G.T.L.) to be played by these stations at pre-designated times during the day.
  - 6/ The news release is announced over 4125 by Peggy Dyson following her weather schedules, Commonly, the first reading of a news release occurs after Peggy's 6:00 P.M. schedule, but occasionally the 8:00 A.M. schedule yields the initial reading.
  - 7/ The news release is distributed to all processors either by hand, verbally on the telephone, by tele-fax, or by calling the ADF&G recorded message phone; this information is then passed along to their respective tenders.

- 8/ Information on the most current news release or emergency order can also be obtained by calling the Kodiak ADF&G office during working hours or by calling either Larry Malloy (486-4251), Dave Prokopowich (486-6007), or Kevin Brennan (486-6475) after working hours or on weekends.
- 9/ Copies of emergency orders for each news release are mailed to a current listing of required and interested recipients.
- 10/ Many fishermen, ADF&G vessels and camps, and Fish and Wildlife Protection vessels use a small tape recorder to document the exact wording of each announcement as broadcast by Peggy Dyson. This is a very prudent thing to do when considering the complicated nature of each announcement and considering the new District and Section boundaries.

## NEW REGULATIONS

The Board of Fisheries deliberated on proposed regulation changes to the Kodiak Area commercial salmon fisheries during December 1989 hearings held in Kodiak. As a consequence of these deliberations, several new regulations will be in effect for the first time in 1990. While these new regulations will appear in the 1990 Commercial Salmon Regulations Book in a proper regulatory form, a brief summary paraphrasing these new regulations is listed below. This summary is provided to help alert permit holders to the new regulations which they should become familiar with before commencing fishing operations in 1990.

### NEW REGULATORY MANAGEMENT PLANS

#### Crescent Lake Coho Salmon Management Plan: (See page 23)

- Describes a coho salmon allocation plan for the Settler Cove area near Port Lions village. This plan was adopted to identify harvest locations by user group by date.
- A complete regulatory description of this plan will appear in the 1990 commercial salmon regulation book.

#### North Shelikof Straits Sockeye Salmon Management Plan: (See pages 19 and 20)

- Describes a sockeye salmon harvest plan for the North Shelikof Straits. This plan was adopted in order to contain the interception of Cook Inlet-bound sockeye by Kodiak seiners to pre-1988 levels.
- This plan only applies to the time period July 6 - 25.
- This plan establishes a sockeye "harvest cap" for each of two geographic portions of the North Shelikof. (The 1990 salmon statistical chart will clarify the exact boundaries affected by this plan).
- The first geographic location includes a grouping of the N.W. Afognak, Shuyak, Big River, Hallo Bay, Inner and Outer Kukak, and Dakavak Bay sections.
  - The sockeye "harvest cap" for this grouping of sections during the period July 6-25 is 15,000 sockeye.
  - When "the cap" is reached from harvests anywhere in this grouping of sections during the period July 6-25, then the "seaward zone" of each of these sections, as defined by lines extending from headland to headland and as will be thoroughly identified in the 1990 salmon statistical chart, will be closed. After July 25 all of these sections will be regulated in a normal manner.
  - For ease of regulatory reference, the seaward portions of each of these sections will be identified as a grouping called the North Shelikof Seaward Zone Management Unit.
- The Second geographic location includes the S.W. Afognak section.
  - The sockeye harvest "cap" for this section during the period July 6-25 is 50,000 sockeye.
  - When the "cap" is reached for harvests anywhere in this section during the period July 6-25 then the "seaward zone" of this section, as defined by lines extending from headland to headland and as will be thoroughly identified in the 1990 salmon statistical chart, will be

closed. After July 25, all of these sections will be regulated in a normal manner.

- For ease of regulatory reference, the seaward portion of this section will be called the "S.W. Afognak Seaward Zone Management Unit".
- Again, the new 1990 statistical chart will define the approximate locations of which portions of North Shelikof management units are affected by this plan.
- Also a complete regulatory description of this plan will appear in the 1990 commercial salmon regulation book and additional discussion of this plan occurs in the management plan portion of this document.

Westside Kodiak Salmon Management Plan: (See page 21)

- Describes a salmon management plan for the S.W. Afognak section, the N.W. Kodiak District, and the S.W. Kodiak District. This plan was adopted to clarify the traditional management practices applied to the various stocks harvested in the area encompassed by this plan.
- A complete regulatory description of this plan will appear in the 1990 commercial salmon regulation book.

GILLNET GEAR SPECIFICATIONS AND OPERATIONS

For the Alitak District, the operation of a gillnet and gillnet lead has been clarified.

For the entire Kodiak Management Area, the maximum depth of gillnet gear has been established at 125 meshes.

SEINE SPECIFICATIONS AND OPERATIONS

For the entire Kodiak Management Area, the maximum depth of purse seine gear has been established at 325 meshes, which includes both seine web and chaffing web.

The maximum mesh size of seine and chaffing web was established at seven (7) inches.

There was no change in the minimum or maximum seine length or in the minimum depth requirements.

## MISCELLANEOUS REGULATORY CLARIFICATIONS

### Boundary Determinations:

- When determining the location of a particular District/Section boundary, or any in-season emergency order boundary, the latitude and longitude as plotted on a navigational chart (scale 1:81,529) will represent the correct boundary locations. Latitude and longitude as determined by Loran bearings represent incorrect boundary locations for purposes of determining the aforementioned boundaries.

### Closed Water Adjustments

- As a result of conflicting interpretations of Alaska Statute 16.05.785 **FAILURE TO REMOVE MARKERS** (see the 1990 Finfish Regulation Book) there will be no in-season adjustments of closed waters (as described in Section 5 AAC 18.350) unless ADF&G personnel will be able to remove old markers and install new markers or unless in-season adjustments of closed waters are made to a specific stream terminus.

### Closed Water Sanctuaries

- In areas where ADF&G has deployed regulatory markers to establish waters closed to fishing, a straight line closure is in effect provided that no portion of that line is less than 500 yards from the stream terminus. Consequently, common closed water configurations will be areas of various shapes, depending upon the nature of each individual stream mouth (terminus) extending between the two regulatory markers.
- The definition of "Stream Terminus" as listed in the 1990 commercial salmon regulations is as follows:
  - Salmon stream terminus means a line drawn between the seaward extremities of the exposed tideland banks of any salmon stream at mean lower low water.
- In areas where ADF&G has deployed regulatory markers to establish waters closed to fishing in entire bays a straight line closure is in effect.

### Three Mile Limit

- According to Title 50, Part 674 of the Code of Federal Regulations it is unlawful to engage in commercial fishing for salmon in the waters lying beyond the seaward boundary of the state (the "three mile limit") west of Cape Suckling.

## FISH TICKETS

A reminder to all fishermen to check the statistical area recorded on each of your fish tickets. It is required that the correct harvest location(s) be shown on each ticket and it is the responsibility of each fisherman that the tender operators or the cannery personnel record the correct harvest location on each ticket. This information is extremely useful in evaluating in-season harvest levels, stock contribution, and effort distribution.

### **SEINERS:**

Please provide estimates of harvest by area to tender operators. For example "1/3 of my reds were from Cape Alitak (257-20) and the rest were from Red River (256-20). The rest of my fish were 1/2 and 1/2 from each of these areas". Prior to signing your tickets, ensure that the proper harvest information by **STATISTICAL AREA** has been entered.

Of particular importance will be to ensure that the harvest from that portion of the Shelikof Straits regulated by the Shelikof Straits sockeye management plan is properly recorded. In order to provide an accurate accounting of sockeye harvests in the area, ADF&G in conjunction with Fish and Wildlife Protection, will conduct an extra monitoring effort of harvest activity and tendering operations in this area during the time period pertinent to this plan, i.e. July 6 -25.

### **GILLNETTERS:**

Because of the fixed nature of your gear, each permit holder's reporting area should be consistent between landings. However, in the event that you become "exploratory" with your nets and move into a new statistical area, please provide the tender operator with that information. Prior to signing your tickets, ensure that the proper harvest information by **STATISTICAL AREA** has been entered.

## MANAGEMENT PLANS

Currently there are five (5) Board of Fisheries approved management plans which provide management guidance to ADF&G for specific geographic portions of the Kodiak management area as to targeted management species by time period. Also, there is a sixth (6) management plan associated with the production from Kitoi Bay hatchery. A listing of these management plans and the management units affected by these plans is as follows:

MGMT. PLAN	YEAR INITIATED	MGMT UNITS AFFECTED	DATES IN EFFECT
C. Igvak Mgmt. Plan	1978	Cape Igvak Section Wide Bay Section	6/5 - 7/25
Kitoi Bay Hatchery Mgmt. Plan	1981	Kitoi Bay Section Izhut Bay Section Duck Bay Section	6/9 - 10/1
Alitak District	1987	Alitak Bay District	6/9 - 10/1
Westside Kodiak Mgmt. Plan	1990	N.W. Kodiak District S.W. Kodiak District S.W. Afognak Section	6/9 - 10/1
Crescent Lake Mgmt. Plan	1990	Portion of Central Section in Vicinity of Port Lions	8/1 - 9/15
N. Shelikof Straits Sockeye Mgmt. Plan	1990	S.W. Afognak Section N.W. Afognak Section Shuyak Section Big River Section Halls Bay section In. and Out. Kiliuda Sect. Dakavak Section	7/6 - 7/25

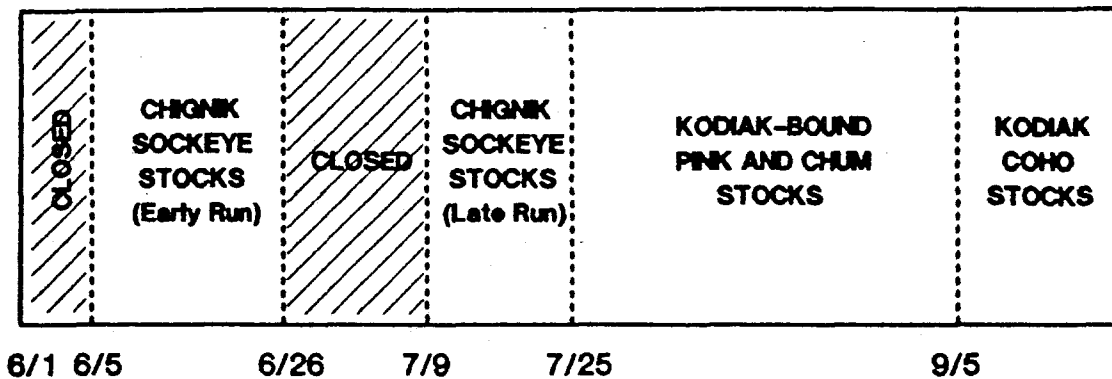
As with any good plan, the test of time and a continued review process will determine it's effectiveness at accomplishing the desired biological and allocative goals. To date only the Cape Igvak, the Kitoi Bay Hatchery, and the Alitak District Management Plan have been adequately exposed to this degree of scrutiny. The 1990 season will be the initial opportunity to evaluate the merits of the other three Board approved plans. One of these, the Westside Kodiak Plan, is basically one which has been implemented for the most part by Emergency Order over a several year period and while it covers the greatest geographical area and affects more user groups and gear types than any other plan, it's expected to be implemented without any problems. Likewise, the Crescent Lake Plan is associated with a relatively small coho enhancement project which could impact the subsistence fishery in the vicinity of Port Lions and thus a plan was needed to clarify coho fishery priorities for that area. Undoubtedly the greatest test of a management plan's intended purposes will occur in those management units affected by the North Shelikof Straits Sockeye Management Plan. Because this new plan potentially restricts the fishing locations of Kodiak's mobile seine fleet under certain harvest situations identified in the plan, many permit holders are apprehensive that the plan will adversely affect normal fishing opportunities on Kodiak stocks. Proper implementation of this plan in 1990 will require a major communication effort between ADF&G and the industry. As with any of these plans, if there is a need for plan clarification from ADF&G, all inquiries, suggestions, and concerns are encouraged to be directed to ADF&G, Kodiak.

## KODIAK MANAGEMENT AREA

### CAPE IGVAK MANAGEMENT PLAN

The regulatory requirements of this plan are described in the 1990 Commercial Finfish Regulation Book. A diagram of the chronological requirements of this plan is shown below along with the biological and allocation criteria of this plan. The harvest projections for the Chignik sockeye return indicates that the early-production will remain below average and that the late production should continue at or above average. The Cape Igvak harvest projections for the 1990 season are shown on page 3 of this document.

#### Management Chronology For Chignik-Bound Sockeye And Kodiak Pink, Chum And Coho



#### Biological and Allocative Criteria for Managing the Cape Igvak Fishery on Chignik-Bound Sockeye

	Biological Requirements			Allocative Requirements		
	REGULATION 5AAC 18.360	ESCAPEMENT NEEDS		REGULATION 5AAC 18.360	CHIGNIK Minimum Harvest	IGVAK %
		Chignik (Early Run)	Chignik (Late Run)			
	(a) (b) (c)	Through 6/30: 350,000 - 400,000	-	(a)	Expectations of • 600,000 Occur	CLOSED
	-	-	-	(b)	Expectations of • 600,000 Are In Doubt	OPEN THEN CLOSED
	(a) (b) (c)	-	Through 7/30: 195,000 - 200,000	(c)	Expectations of • 600,000 Occur	OPEN TO ACHIEVE 15 %
	-	-	-	(d)	Chignik Sockeye % Interception Calculations	80% of Catch At Igvak Are Chignik Sockeye
	-	-	-	(e)	ALLOCATION PERIOD:	6/5 - 7/25
	(f)	From June 28 - July 9 Cape Igvak Section Closed Until Chignik Late Run Evaluated		-	-	-
	-	-	-	(g)	-	ONE DAY ADVANCE NOTICE
<b>TOTAL</b>		<b>400,000</b>	<b>250,000</b>		<b>600,000 Minimum</b>	<b>15 %</b>



## KODIAK MANAGEMENT AREA

### KITOI BAY HATCHERY MANAGEMENT PLAN

This plan reflects the relatively complex harvest strategies which are required to properly manage the returns of hatchery produced fish and still provide protection for eastside Afognak natural salmon runs. Because of the revenue generated from the record hatchery return in 1989, no cost-recovery fisheries are expected for the 1990 season. All other aspects of the plan diagrammed below will be implemented per the approximate dates shown. A detailed and lengthy management plan is available at either the Kitoi Bay hatchery or at the Kodiak ADF&G office.

SALMON MANAGEMENT PLAN FOR KITOI BAY HATCHERY TARGETED SPECIES BY SYSTEM AND TIME FOR SPECIFIC MANAGEMENT UNITS <sup>1/</sup>												
S.E. AFOGNAK SECTION (Seine)	CLOSED	CLOSED	FUTURE LITNIK REEF	LOCAL PINKS					LOCAL COHO			
BUCK BAY SECTION (Seine)	FUTURE HATCHERY CHUMS 1995--		FUTURE HATCH. CHUMS 1991-94	LOCAL PINKS					LOCAL COHO			
	CLOSED 1987-1991											
IZHUT BAY SECTION (Seine)	FUTURE HATCHERY CHUMS 1995--		FUTURE HATCH. CHUMS 1991-94	CLOSED UNTIL COST RECOVERY ASSURED	LOCAL PINKS			LOCAL COHO				
	CLOSED 1987-1991											
KITOI BAY SECTION <sup>2/</sup> (Seine) Broodstock												
Pinks: Cost Recovery Common Property					b/							
							c/					
CHUM: Broodstock Broodstock Common Property			d/									
			e/									
			f/									
COHO: Broodstock Common Property								g/				
												h/
	6/9	6/14	6/20	7/1	7/6	7/10	7/20	8/1	8/10	8/20	8/24	9/1

<sup>1/</sup> - fishing time dependent upon sockeye escapement into Litnik system.

<sup>1/</sup>Included in this management plan are harvest strategies for current natural and artificial production as well as future artificial production.

<sup>2/</sup>The management plan required for the Kitoi Bay section is rather complicated in order to achieve broodstock, cost recovery, and common property harvest requirements. This is further complicated by the multispecies production currently occurring at Kitoi hatchery. The diagram shown attempts to approximate dates for when specific management strategies should be implemented to insure achievement of hatchery goals and an orderly harvest of quality common property fish.

- a/Hatchery pink salmon broodstock captured.
- b/Hatchery pink salmon cost recovery fishery.
- c/Hatchery pink salmon common property fishery.
- d/Hatchery chum salmon broodstock captured 1987-1994.
- e/Hatchery chum salmon broodstock captured 1995-Armageddon.
- f/Hatchery chum salmon common property fishery.
- g/Hatchery coho salmon broodstock captured.
- h/Hatchery coho salmon common property fishery.

## KODIAK MANAGEMENT AREA

### ALITAK DISTRICT MANAGEMENT PLAN

This plan will follow the diagram shown below as much as possible. Dates listed in the plan are approximate and may vary slightly with changes in run timing; an exception is the June 9 commercial test fishery, which is a firm date.

The management chronology for Olga Bay stocks, also shown below, identifies the targeted management stocks by approximate time period. In situations where two or more targeted stocks overlap in their timing a "blended" management approach will occur whereby adequate fishing time will be provided to ensure that desired escapement goals are not exceeded for the more dominant stock(s) yet that the minimum escapement goals for the less dominant stock(s) are achieved. As decreed by the Board of Fisheries, fishing time directed on these stocks will occur simultaneously in the traditional management units for harvesting these stocks, namely the Cape Alitak section and the Moser/Olga Bay section. Management for these stocks will emphasize an aggressive strategy to contain the harvest to these traditional harvest units; this strategy also applies to the remainder of the stocks in the Alitak Bay District.

The regulatory wording for implementing this management plan appears in the 1990 Commercial Finfish Regulation Book. However, the specifics for managing the 1990 returns need to consider the expected magnitude of the targeted stocks returning to the Olga Bay systems. As indicated in the pre-season harvest expectations on page 3, the sockeye returns to Alitak are expected to yield relatively strong early-run sockeye production from the Fraser system and comparatively moderate production from late-run sockeye production from the Upper Station system. In conjunction with the late-run sockeye production, a moderate (at best) return of Dog Salmon pinks is expected to be simultaneously available to the fishery. However because both stocks are expected to be of moderate proportions, harvestable surpluses for both stocks should be taken in the traditional Cape Alitak, and Moser/Olga Bay sections; fishing time in the Upper Olga Bay sections is not expected in 1990 unless there are significant inaccuracies in the pre-season forecasts.

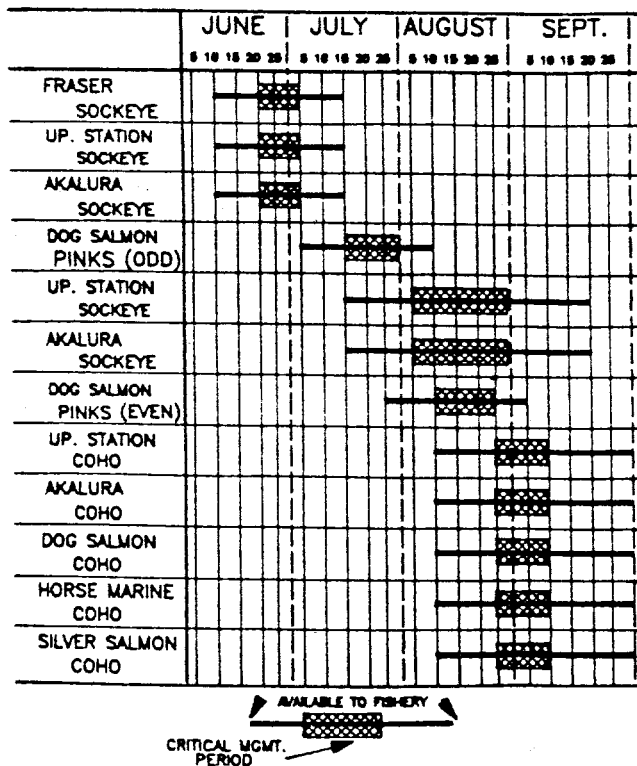
Some specific points to stress this year are:

- That the period from approximately June 12 through June 24 is identified as an aggressive management period for Fraser sockeye.
- This means that, in order to maintain equitable and orderly harvest opportunities for all gear types, and the need to insure that escapement requirements are achieved for the 1990 season, the minimum escapement goal for Fraser sockeye (140,000) will be targeted instead of the desired escapement goal (200,000) in order to mitigate the excess sockeye incurred in 1989 (approximately 357,000).
- the minimum pink salmon escapement requirements for the Dog Salmon system is 80,000 fish.
- In the unanticipated event that fishing time is required in Upper Olga Bay management units, minimum advance notice will remain consistent with that identified on page 5.

# ALITAK BAY DISTRICT MANAGEMENT PLAN

CAPE ALITAK SECTION (seine)	CLOSED	X	FRASER SOCKEYE (aggressive management strategy)	FRASER SOCKEYE (conservative management strategy)	ODD YEAR CYCLE FRASER PINKS	ODD YR. CYCLE UP. STA. SOCK.	ALL ALITAK DISTRICT COHO SYSTEMS
		X			EVEN YEAR CYCLE UP. STA. SOCKEYE (late run)	EVEN YR. CYCLE UP. STA. SOCK. FRASER PINKS	
MOSE/OLGA BAY SECTION (pillnet) (traditional)	CLOSED	X	FRASER SOCKEYE (aggressive management strategy)	FRASER SOCKEYE (conservative management strategy)	ODD YEAR CYCLE FRASER PINKS	ODD YR. CYCLE UP. STA. SOCK.	ALL OLGA BAY COHO SYSTEMS
		X			EVEN YEAR CYCLE UP. STA. SOCKEYE (late run)	EVEN YR. CYCLE UP. STA. SOCK. FRASER PINKS	
OUT. UPPER STA. IN. UPPER STA. (gillnet) (non-traditional)	CLOSED	CLOSED	UPPER STATION SOCKEYE (early run)		UPPER STATION SOCKEYE (late run)		UPPER STATION COHO
OUT. AKALURA IN. AKALURA (gillnet) (non-traditional)	CLOSED	CLOSED	AKALURA SOCKEYE (early run)		AKALURA SOCKEYE (late run)		
						AKALURA SOCKA COHO	AKALURA COHO
DOG SALMON FLATS SECTION (gillnet) (non-traditional)	CLOSED	CLOSED	FRASER SOCKEYE (mop-up fishery)		FRASER PINKS		FRASER AND HORSE MARINE COHO
HUMPY/DEADMAN SECTION (seine)	CLOSED	X	FRASER SOCKEYE (aggressive management strategy)	FRASER SOCKEYE (conservative management strategy)	ALITAK BAY PINKS/CHUMS/COHO		
6/1 6/9-10 2/ 6/24 7/9 7/15 8/9 8/20 8/26 9/25							

## KODIAK MANAGEMENT AREA - ALITAK BAY DISTRICT PRIMARY MANAGEMENT SPECIES BY SYSTEM BY TIME



## KODIAK MANAGEMENT AREA

### NORTH SHELIKOF STRAITS SOCKEYE SALMON MANAGEMENT PLAN

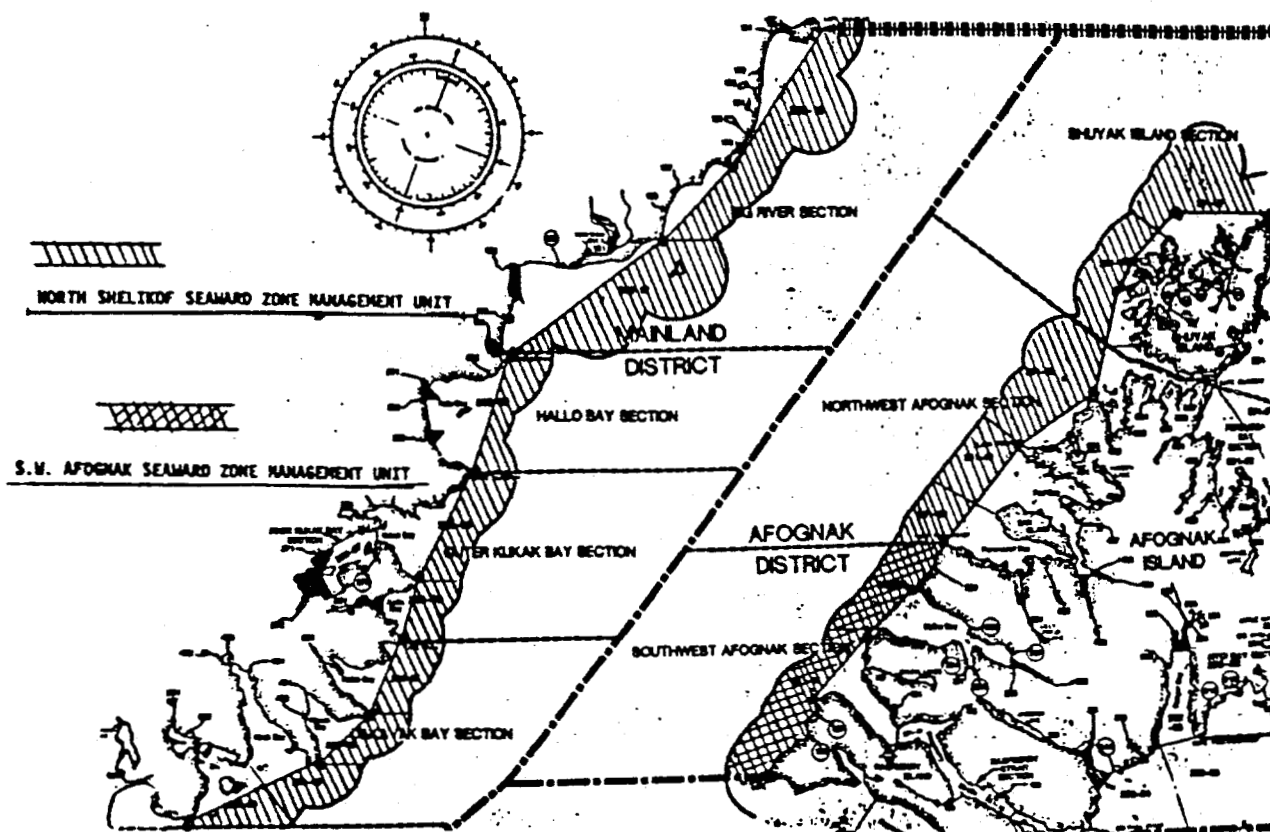
The Board of Fisheries in December 1989 created this management plan in response to concern that the fishing patterns and quantities of sockeye harvested by Area K seiners in 1988 represented the onset of an expansion of the interception of Cook Inlet bound sockeye in Kodiak Area waters. This plan was meant to contain this interception to not exceed estimated historical interception levels yet still provide for traditional opportunities to harvest high quality pink and chum salmon from local stocks. The major impact of this plan was to create "sockeye harvest caps" for that portion of the North Shelikof which encompasses eight (8) management units.

The regulatory wording for this new management plan is listed below and a map identifying the "location of the boundaries" between the seaward and shoreward zones is on the following page.

- **From July 6 through July 25 in the Dakavak Bay, Outer Kukak Bay, Inner Kukak Bay, Hallo Bay, and Big River sections of the Mainland District, and in the Shuyak Island and Northwest Afognak sections of the Afognak District, the department shall manage the fishery as follows:**
  - **Management of the fishery must be based on local stocks;**
  - **the fishery may remain open during normal fishing periods until the harvest exceeds 15,000 sockeye salmon;**
  - **when the harvest exceeds 15,000 sockeye salmon, the department shall restrict the fishery by emergency order to waters of the:**
    - Dakavak Bay, Outer Kukak Bay, Inner Kukak Bay, Hallo Bay, and Big River sections west of a line from Cape Douglas at 58°51'06" N. lat, 153°14'54" W. long, to a point at 58°42'40" N. lat, 153°26'18" W. long, to a point east of Swikshak River at 58°38'06" N. lat., 153°35'24" W. long., to Cape Chiniak at 58°31' N. lat., 153°54'21" W. long., to Cape Nukshak at 58°23'30" N. lat., 153°57' W. long., to Cape Ugyak at 58°16'36" N. lat., 154°06'03" W. long., to Cape Gull at 58°13' N. lat, 154°08'30" W. long., to Cape Kuliak at 58°08'11" N. lat., 154°12'34" W. long., to Cape Atushagvik at 58°05' N. lat., 154°18'48" W. long., to Cape Ilktugitak at 58°01'12" N. lat., 154°34'48" W. long to the southern entrance of Dakavak Bay at 58°01' N. lat., 154°43'30" W. long.,
    - Shuyak Island and Northwest Afognak sections south and east of a line from Point Banks at 58°38' N. lat., 152°18'54" W. long., to Dark Island at 58°38'45" N. lat., 152°33'05" W. long., to Gull Island at 58°35'48" N. lat., 152°38'45" W. long., to the northern entrance of Big Bay at 58°34'06" N. lat., 152°40'12" W. long., to the western entrance of Blue Fox Bay at 58°27'41" N. lat., 152°43'42" W. long., to Black Cape at 58°24'33" N. lat., 152°52'09" W. long., to Cape Paramanof at 58°18'21" N. lat., 153°02'45" W. long.
- **From July 6 through July 25 in the Southwest Afognak Section of the Afognak District, the department shall manage the fishery as follows:**
  - **management of the fishery must be based on local stocks;**
  - **the fishery may remain open during normal fishing periods until the harvest exceeds 50,000 sockeye salmon;**
  - **when the harvest exceeds 50,000 sockeye salmon, the department shall restrict the fishery by emergency order to waters of the Southwest Afognak Section east of a line from Cape Paramanof at 58°18'21" N. lat., 153°02'45" W. long., to Tanaak Cape at 58°15'36" N. lat., 153°06'09" W. long., to Steep Cape at 58°12'05" N. lat., 153°12'33" W. long., to a point at 58°08'25" N. lat., 153°18'52" W. long., to Raspberry Cape at 58°03'35" N. lat., 158°18'52" W. long., to Raspberry Cape at 58°03'35" N. lat., 153°25'06" W., long.**

All fishermen and tender operators should familiarize themselves with the boundaries of these "seaward" and "shoreward" zones in each of these eight management units. Also, it will be the responsibility of both the permit holder and the tender operator to insure that fish tickets for fish harvested in the geographical area covered by this plan properly reflect the poundage and quantities of salmon by species taken in this geographical area. If there are lingering questions on this new management plan feel free to contact ADF&G Kodiak staff.

# KODIAK MANAGEMENT AREA NORTH SHELIKOF STRAIT SOCKEYE SALMON MANAGEMENT PLAN<sup>1/</sup>



<sup>1/</sup>APPROXIMATE LOCATION OF BOUNDARY LINES IDENTIFYING THE "NORTH SHELIKOF SEAWARD ZONE MANAGEMENT UNIT" AND THE "S.W. AFOGNAK SEAWARD ZONE MANAGEMENT UNIT".

## KODIAK MANAGEMENT AREA

### WESTSIDE KODIAK MANAGEMENT PLAN

The Board of Fisheries, at their December 1989 meeting in Kodiak, adopted into regulation this management plan which identifies the management chronology for major Westside Kodiak salmon stocks.

The goal of this Management Plan is to achieve escapement and harvest objectives of sockeye salmon returning to the Karluk, Ayakulik, and other Westside minor systems, and of pink, chum, and coho salmon returning to systems in the Southwest Afognak, Central, North Cape, Anton Larsen Bay, Sheratin Bay, Kizhuyak Bay, Terror Bay, Inner Uganik Bay, Spiridon Bay, Zachar Bay, Uyak Bay, Outer Karluk, Inner Karluk, Sturgeon Bay, Halibut Bay, Outer Ayakulik and Inner Ayakulik sections. It was the intent of the Board to insure that salmon bound to these systems be harvested to the extent possible by the traditional fisheries located in all 17 sections. It directed the department to manage the Northwest Kodiak and the Southwest Kodiak districts and the Southwest Afognak Section in accordance with the guidelines set out in this plan as described in the 1990 Commercial Finfish Regulation Book and as described in the diagrams on the following page.

This plan was submitted as a proposed regulation to the Board of Fisheries by the Kodiak Management Staff in order to allow industry the opportunity to comment on existing harvest strategies and in order to clarify their intent. Frequently Kodiak fishermen had expressed concerns over how the department will manage the Westside management units (sections) in the 1990's when local sockeye stocks are projected to be near maximum production, since this will affect the traditional harvest opportunities between fixed and mobile gear. The annual harvest strategy has traditionally invoked a "blend" of fishing time between the 17 management units covered by this plan. At times this "blend" has not been totally understood by industry and has resulted in enough allocative uneasiness that future management stability could be jeopardized. Guidelines for this "blend" needed to occur in regulatory form to specifically identify in-season harvest strategy and to dispel any concern and confusion. Again, the previous regulatory structure did not provide the information needed by industry to evaluate in-season management decisions which affect allocation concerns of the three gear types affected by this plan.

This management plan reflects the realization of long-term management goals and identifies current management practices both of which were initially implemented in 1971. The basis for these goals and practices was primarily to rebuild depleted Karluk and depressed Ayakulik sockeye stocks. This plan provides a predictable management framework for these rebuilt stocks, as well as pertinent major pink, chum and coho stocks, and helps to stabilize fishing opportunities between the three gear types on the highest quality fish in these districts and sections.

The regulatory wording of this plan appears in the 1990 Commercial Finfish Regulation Book and a diagram summarizing the plan occurs on the next page.

# **WESTSIDE KODIAK MANAGEMENT PLAN** **MANAGEMENT CHRONOLOGY BY MANAGEMENT UNITS FOR MAJOR WESTSIDE SALMON STOCKS**

		6/1	6/9	6/16	6/23	7/6	7/16	8/1	8/16	8/25	9/6	10/31
21 NORTHWEST KODIAK DISTRICT	AFOG. DIST. SW. AFOGNAK (BEINS)	CLOSED			E. R. KARLUK SOCKEYE	LOCAL AND MIXED PINKS			L. R. KARLUK SOCKEYE / LOCAL AND MIXED PINKS	L. R. KARLUK SOCKEYE	LOCAL COHO	
	NORTH CAPE :	CLOSED			E. R. KARLUK SOCKEYE	LOCAL AND MIXED PINKS			L. R. KARLUK SOCKEYE / LOCAL AND MIXED PINKS	L. R. KARLUK SOCKEYE	LOCAL COHO	
	CENTRAL	CLOSED			E. R. KARLUK SOCKEYE	LOCAL AND MIXED PINKS			L. R. KARLUK SOCKEYE / LOCAL AND MIXED PINKS	L. R. KARLUK SOCKEYE	LOCAL COHO	
	ANTON LARSEN											
	SHERATIN											
	KIZHUYAK											
	TERROR											
	N. UGANIK											
	SPRIDON											
	ZACHAR											
S. W. KODIAK DISTRICT	UYAK											
	OUT. KARLUK	CLOSED			E. R. KARLUK SOCKEYE	ODD-YEAR CYCLE : L. R. KARLUK SOCKEYE EVEN-YEAR CYCLE : L. R. KARLUK SOCKEYE / KARLUK PINKS			L. R. KARLUK SOCKEYE		KARLUK COHO	
	N. KARLUK	CLOSED			E. R. KARLUK SOCKEYE	ODD-YEAR CYCLE : L. R. KARLUK SOCKEYE EVEN-YEAR CYCLE : L. R. KARLUK SOCKEYE / KARLUK PINKS			L. R. KARLUK SOCKEYE		KARLUK COHO	
	STURGEON	CLOSED			E. R. KARLUK AND AYAKULIK SOCKEYE / STURGEON CHUMS	ODD-YEAR CYCLE : L. R. KARLUK SOCKEYE EVEN-YEAR CYCLE : L. R. KARLUK SOCKEYE / KARLUK PINKS			L. R. KARLUK SOCKEYE		LOCAL COHO	
	HALIBUT	CLOSED			E. R. KARLUK AND AYAKULIK SOCKEYE	ODD-YEAR CYCLE : L. R. KARLUK SOCKEYE EVEN-YEAR CYCLE : L. R. KARLUK SOCKEYE / KARLUK PINKS			L. R. KARLUK SOCKEYE		LOCAL COHO	
	OUT. AYAKULIK	CLOSED			E. R. AYAKULIK SOCKEYE	ODD-YEAR CYCLE : L. R. AYAKULIK SOCKEYE EVEN-YEAR CYCLE : L. R. AYAKULIK SOCKEYE / AYAKULIK PINKS					AYAKULIK COHO	
	N. AYAKULIK	CLOSED			E. R. AYAKULIK SOCKEYE	ODD-YEAR CYCLE : L. R. AYAKULIK SOCKEYE EVEN-YEAR CYCLE : L. R. AYAKULIK SOCKEYE / AYAKULIK PINKS					AYAKULIK COHO	



COMMERCIAL TEST FISHERIES

E. R. = EARLY RUN STOCKS

L. R. = LATE RUN STOCKS

## KODIAK MANAGEMENT AREA

### CRESCENT LAKE MANAGEMENT PLAN

As indicated earlier, this management plan is associated with a relatively small coho enhancement project which could impact the subsistence fishery in the vicinity of Port Lions. This plan clarifies the harvest priorities for coho salmon returning to the Settler's Cove area near Port Lions. A copy of the regulations guiding this plan are listed below as well as in the 1990 Commercial Finfish Regulation Book.

5 AAC 18.364. CRESCENT LAKE COHO SALMON MANAGEMENT PLAN. (a)

The department shall manage the commercial, sport, and subsistence fisheries in Settler Cove to provide for full utilization of the enhanced stock of coho salmon returning to Crescent Lake in accordance with the Crescent Lake Coho Salmon Management Plan in this section.

(b) Sport and subsistence fisheries are allowed in all waters of Settler Cove consistent with 5 AAC 64 and 5 AAC 01.

(c) The department may open, by emergency order, those waters of Settler Cove between the causeway and a line from the seaward end of the Port Lyons breakwater to a department marker located directly across Settler Cove from the breakwater to the commercial taking of salmon only as follows:

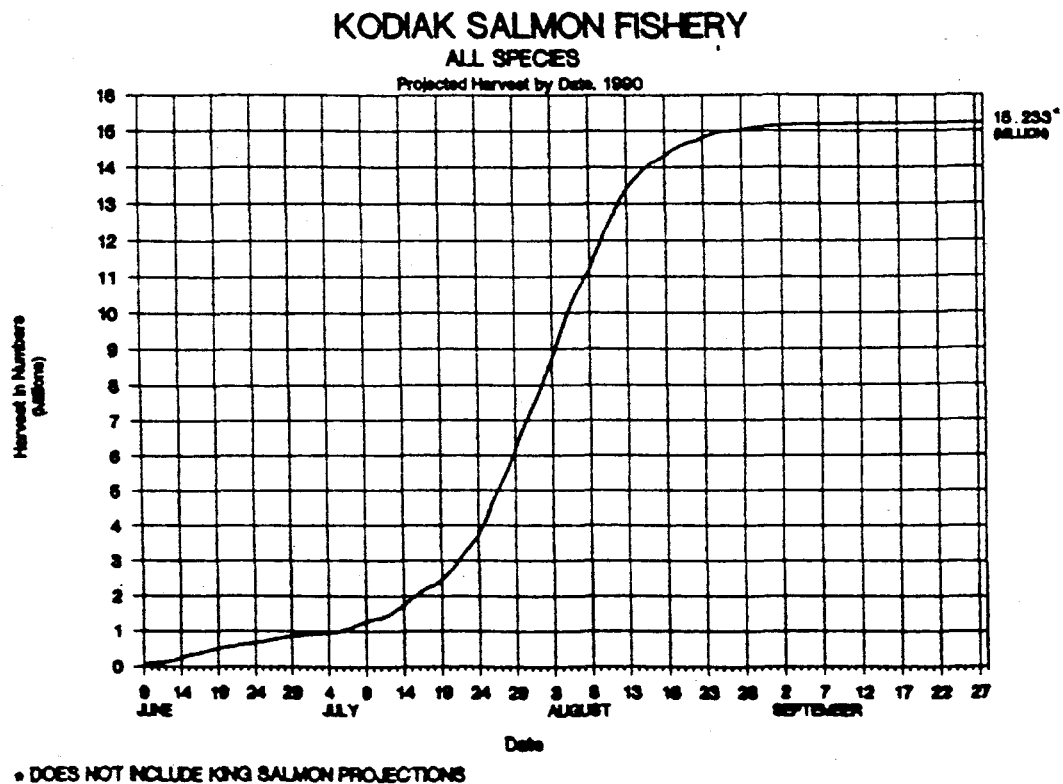
(1) the department shall not allow the commercial taking of salmon before September 16; and

(2) before opening the fishery, the department shall determine that 500 or more coho salmon are available in Settler Cove for harvest. (Eff. \_\_/\_\_/90, Register \_\_)

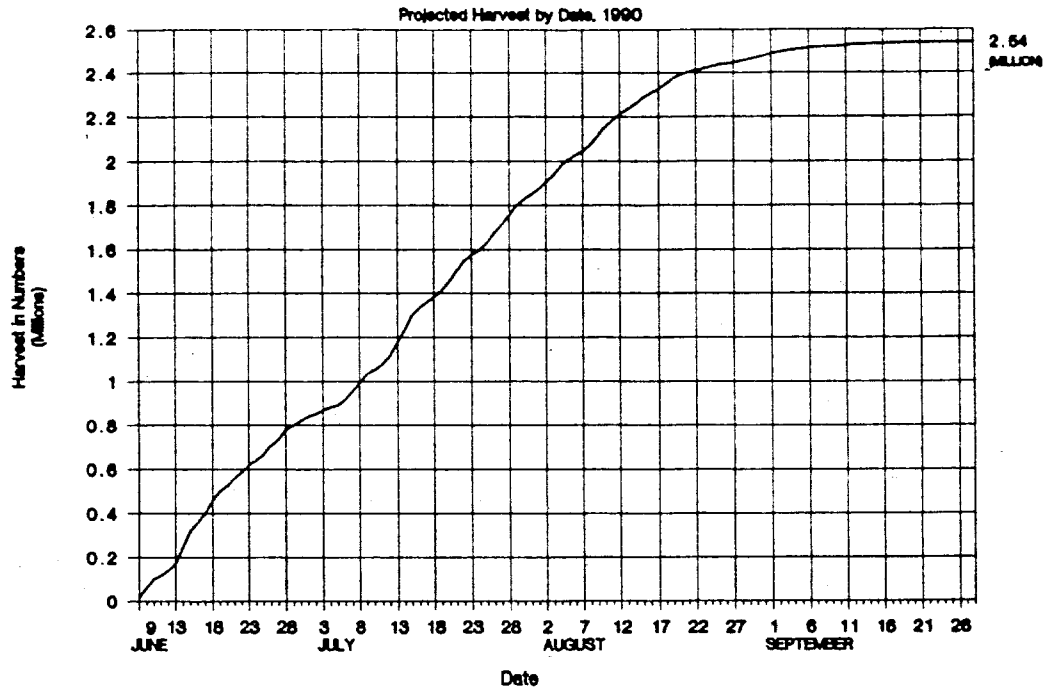


## THE PROJECTED 1990 SALMON HARVEST

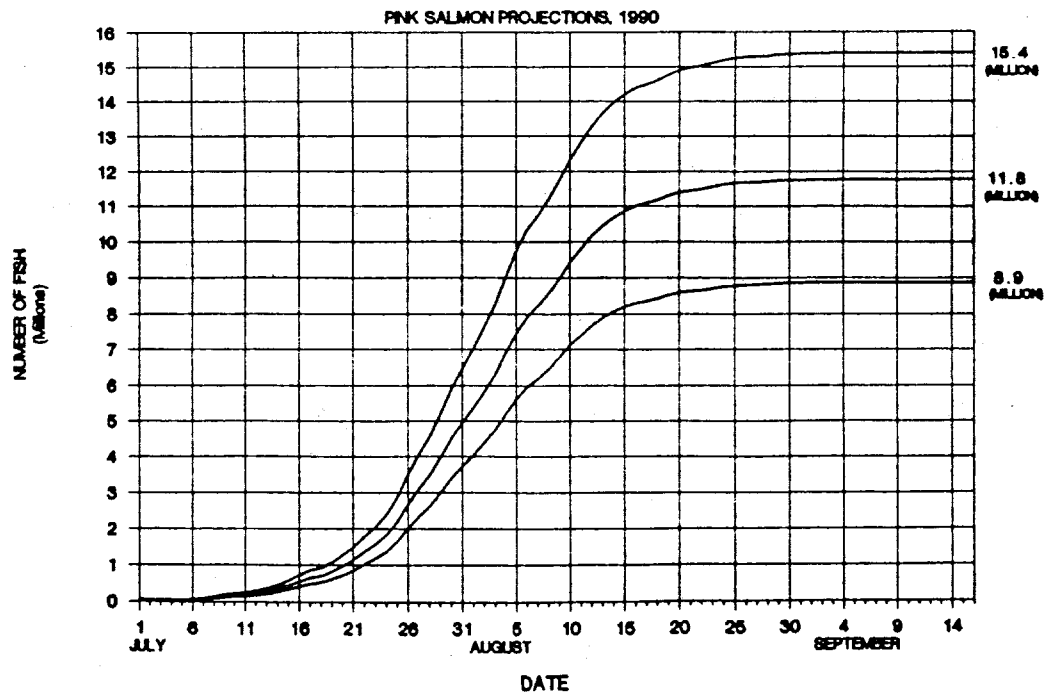
The following graphs represent cumulative harvest expectations by specific dates for each of Kodiak's commercially targeted salmon species as well as for all species combined. The shape of each curve is an historical representation of the average cumulative harvest by date and the magnitude of each curve is determined by ADF&G's pre-season harvest projection. These graphs can be used for planning purposes by both industry and ADF&G to identify if pre-season operational or management strategies need to be modified in-season because of unexpected deviations in actual run strength. In-season harvest data will be made available in order that trends in actual harvest can be plotted on these graphs.



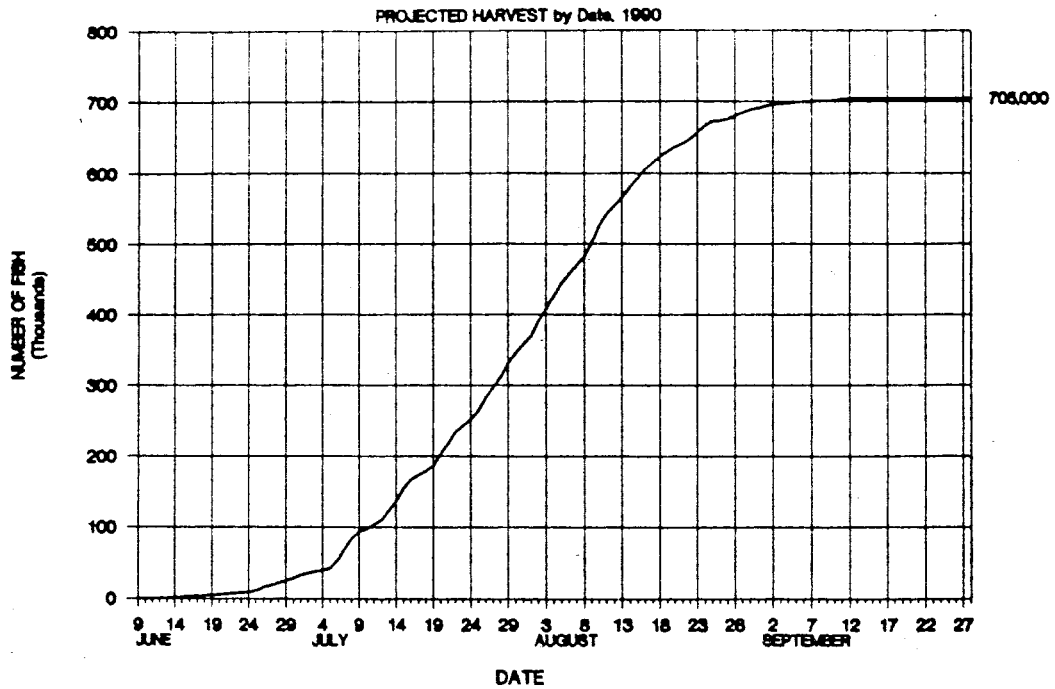
## KODIAK RED SALMON



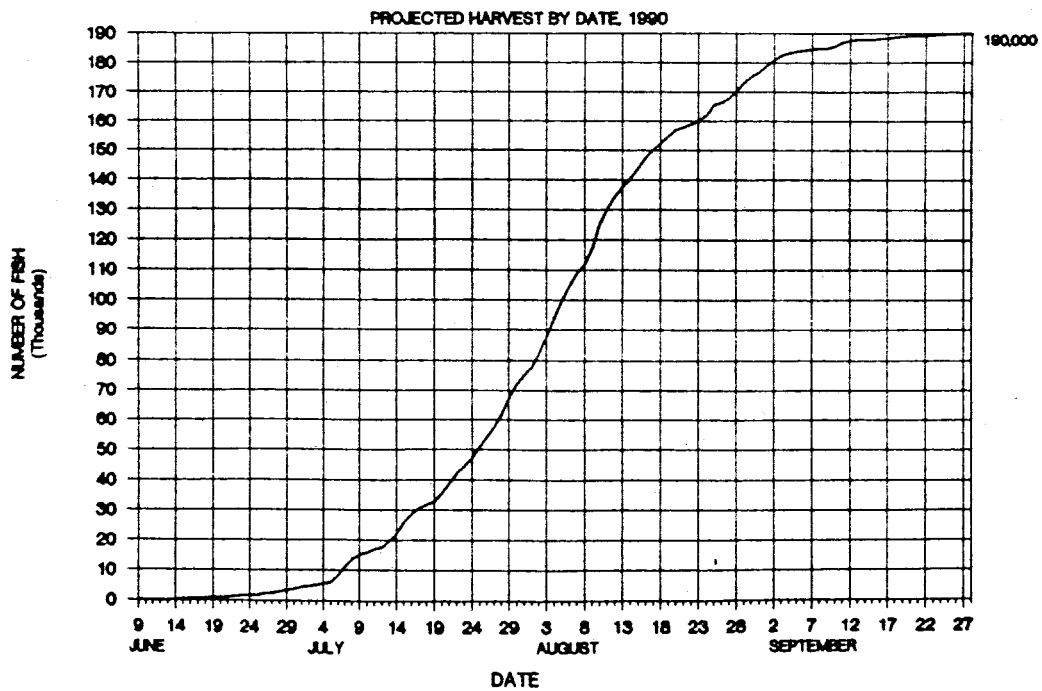
## KODIAK PINK SALMON



## KODIAK CHUM SALMON



## KODIAK COHO SALMON



# **SOCKEYE SALMON ESCAPEMENT GOALS FOR AREA K MAJOR SOCKEYE SALMON SYSTEMS**

Targeted sockeye fisheries on systems having fish weirs, where a total enumeration of upstream migrants can be used to determine the amount of fishing time required, if any, to harvest identified surpluses, commonly occurs for those systems listed in the table below. For those sockeye systems which remain un-weired, fishing time is generally conservative and occurs at the discretion of ADF&G's perception of system-specific return strength.

The table below identifies minimum and desired escapement requirements for each system's sockeye stocks. A basic management function is to achieve minimum escapements for stocks exploited by targeted fisheries, even if it requires that directed fishing time on those stocks does not occur. Likewise, when the possibilities exist that desired escapements will be exceeded and that significant deviations from optimum production could occur because of that excess, maximum directed fishing time on pertinent stocks is allowed, even if it requires providing for continuous stream terminus fishing opportunities to contain the escapement at or near desired levels. These are the extreme management scenarios occasionally needed for Kodiak's sockeye management. More commonly only a moderate amount of directed fishing time is required to harvest sockeye surpluses and to provide escapement which approaches desired levels.

**SOCKEYE SALMON ESCAPEMENT GOALS  
FOR SEVERAL MAJOR AND MINOR SOCKEYE SYSTEMS<sup>1/</sup>  
(Millions of Fish)**

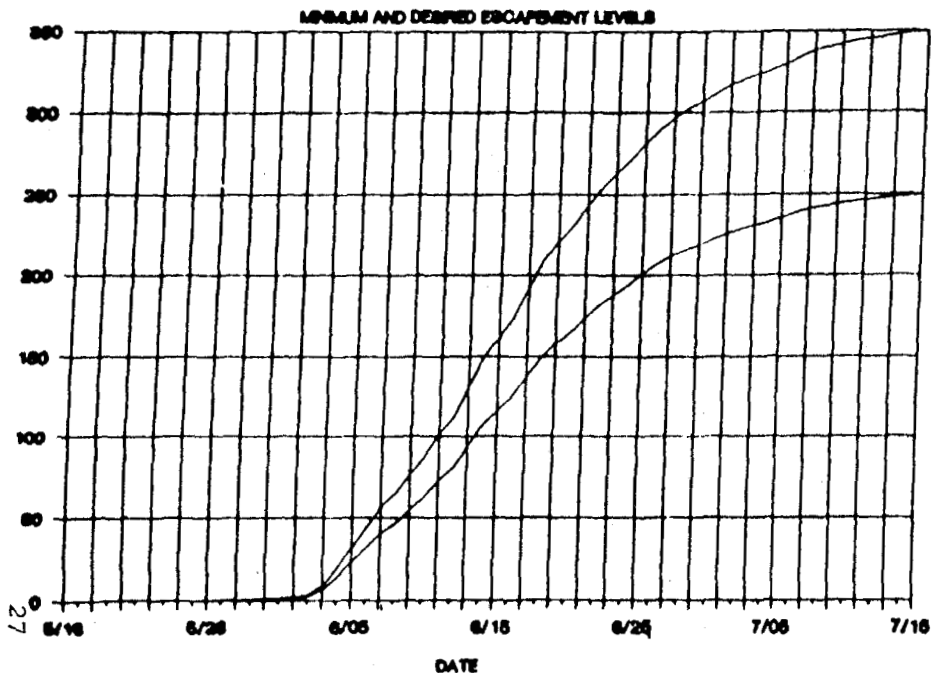
	<u>Early (Before 7/15)</u>		<u>Late (After 7/16)</u>		<u>Total</u>	
	Min.	Des.	Min.	Des.	Min.	Des.
<b>Major Systems</b>						
Karluk <sup>2/</sup>	.250	.350	.310	.550	.560	.900
Ayakulik <sup>2/</sup>	.160	.220	.040	.080	.200	.300
Upper Station <sup>2/</sup>	.050	.075	.150	.200	.200	.275
Fraser <sup>3/</sup>	.140	.200	-	-	.140	.200
Sub-total	.600	.845	.500	.830	1.100	1.075
<b>Minor Systems</b>						
Avaluna <sup>2/</sup>	.010	.015	.015	.035	.025	.050
Saltery <sup>2/</sup>	.020	.030	-	-	.020	.030
Baskin <sup>2/</sup>	.010	.015	-	-	.010	.015
Litnik <sup>2/</sup>	.040	.060	-	-	.040	.060
Paul's <sup>2/</sup>	.020	.040	-	-	.020	.040
Thorstein <sup>2/</sup>	.005	.010	-	-	.005	.010
Sub-total	.105	.170	.015	.035	.120	.205
<b>GRAND TOTAL</b>	<b>.705</b>	<b>1.015</b>	<b>.515</b>	<b>.865</b>	<b>1.220</b>	<b>1.880</b>

<sup>1/</sup>This listing of systems identifies only those systems whose escapement is monitored by fish-weir total escapement counts. The escapement into these systems represents approximately 85% of the Kodiak Area's total sockeye escapement.

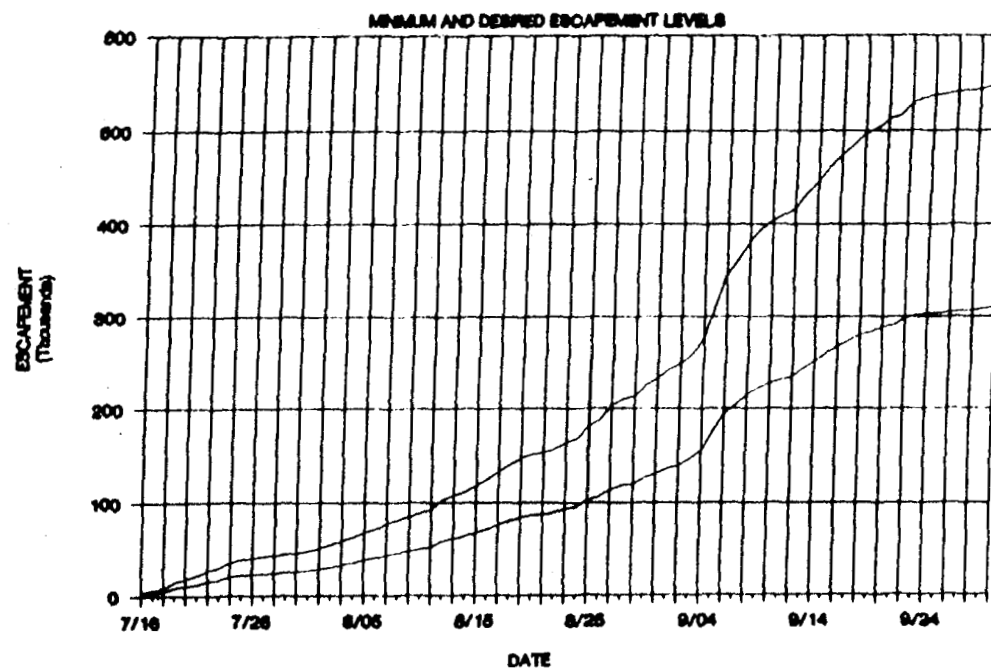
<sup>2/</sup>Sockeye escapement into these systems characterized by two (2) more or less distinct stocks as identified by bimodal escapement pattern, i.e. an early-stock where the cumulative escapement occurs through July 15 and a late stock where the cumulative escapement occurs primarily from July 16 through season's end.

<sup>3/</sup>Sockeye escapement into these systems characterized by one (1) distinct escapement pattern and where escapement is essentially completed by approximately July 25.

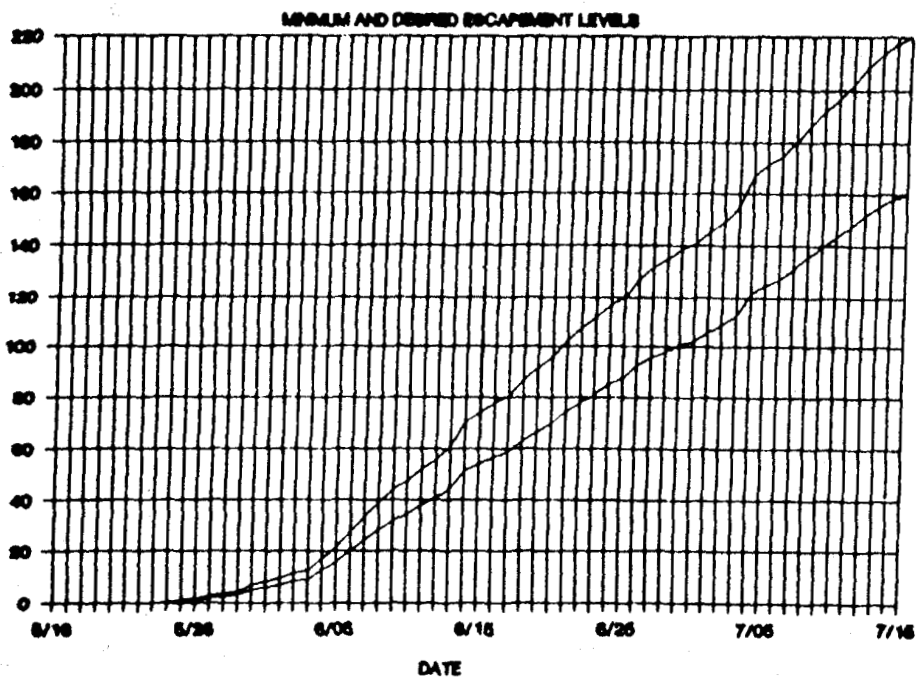
# KARLUK SOCKEYE SALMON, EARLY RUN



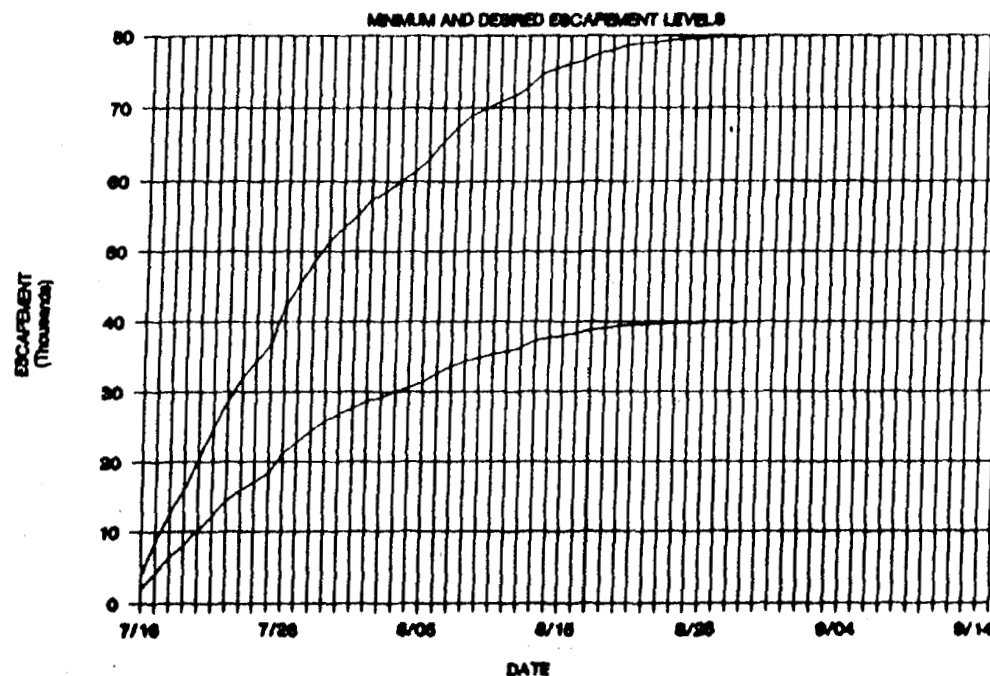
# KARLUK SOCKEYE SALMON, LATE RUN



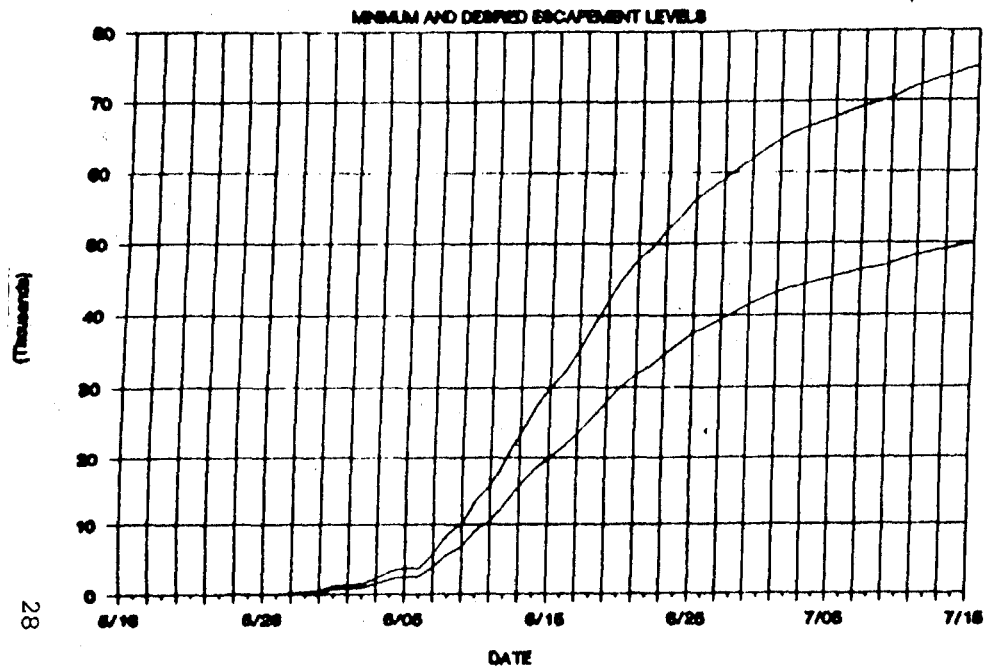
# AYAKULIK SOCKEYE SALMON, EARLY RUN



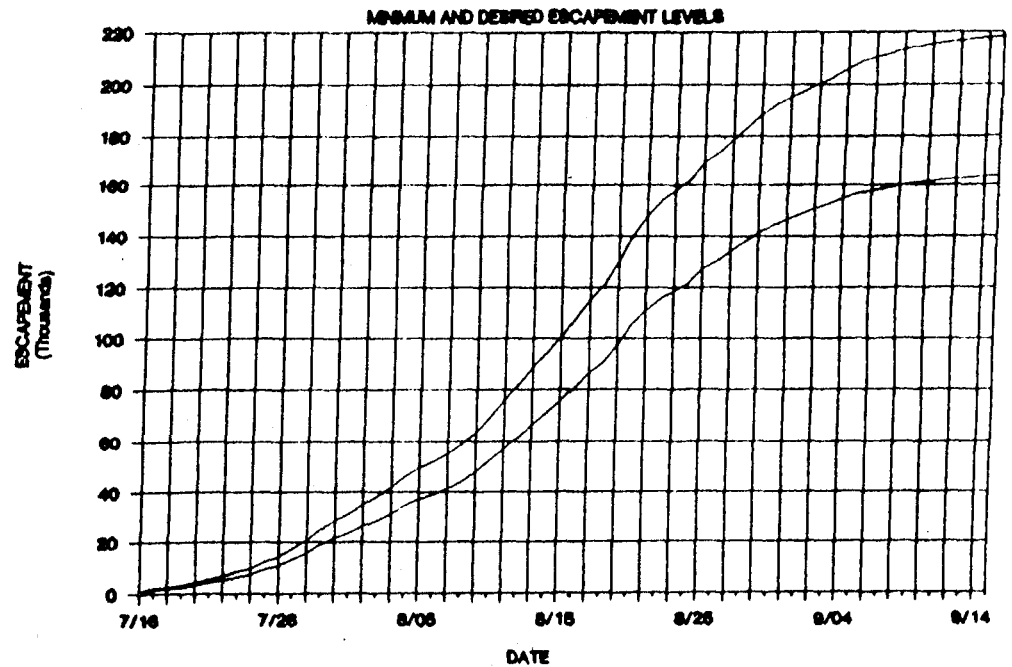
# AYAKULIK SOCKEYE SALMON, LATE RUN



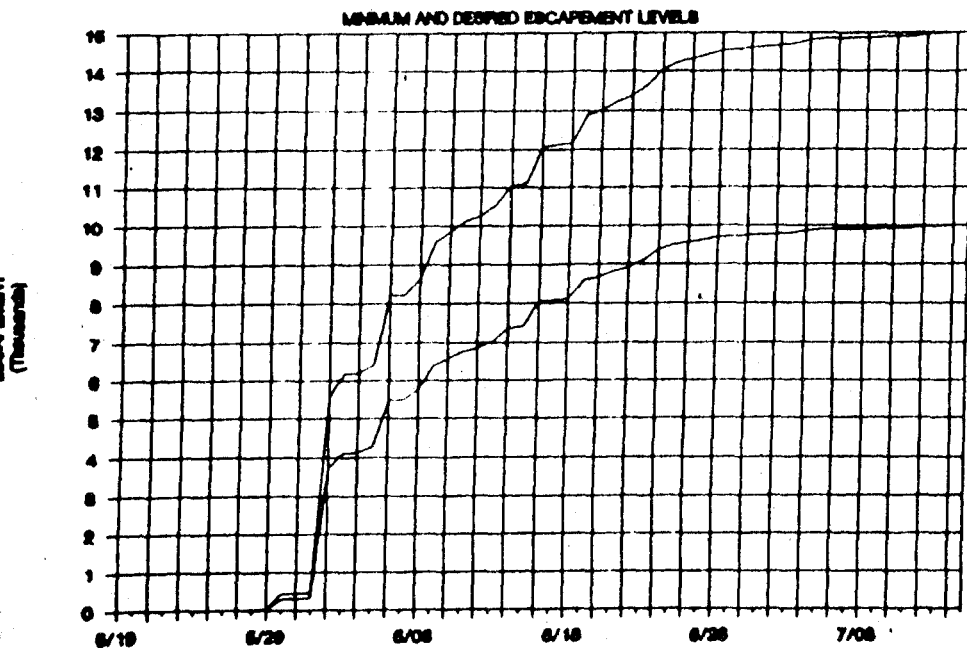
## UPPER STATION SOCKEYE SALMON, EARLY RUN



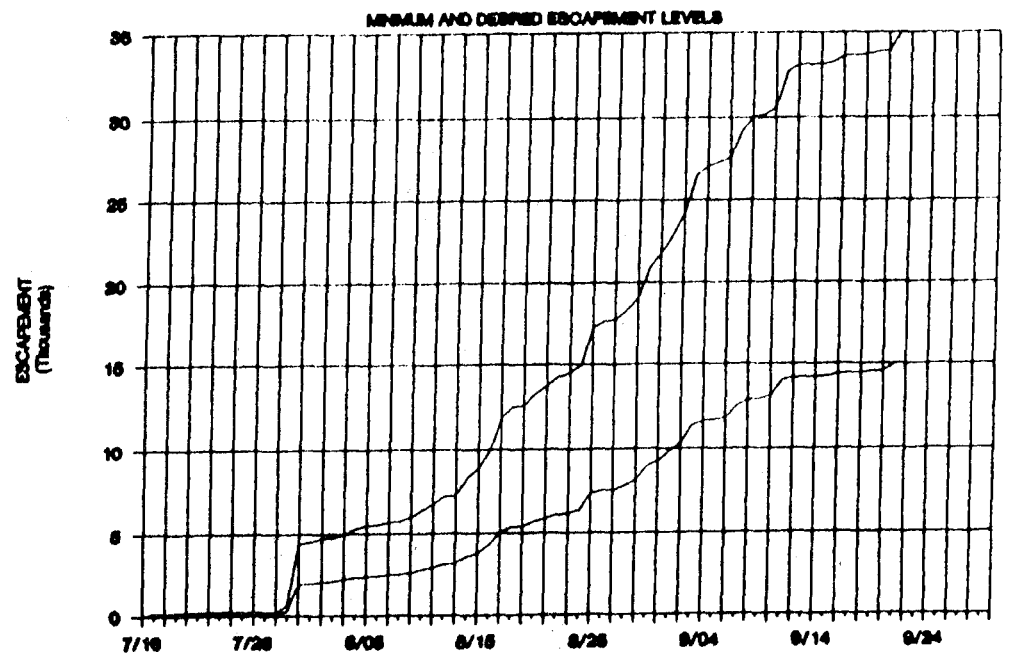
## UPPER STATION SOCKEYE SALMON, LATE RUN



## AKALURA SOCKEYE SALMON, EARLY RUN

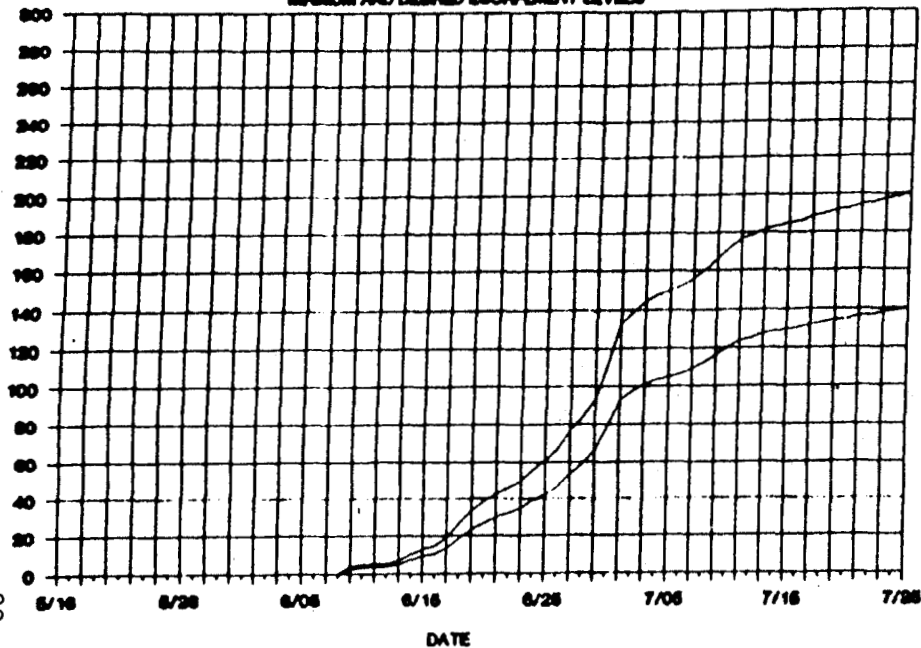


## AKALURA SOCKEYE SALMON, LATE RUN



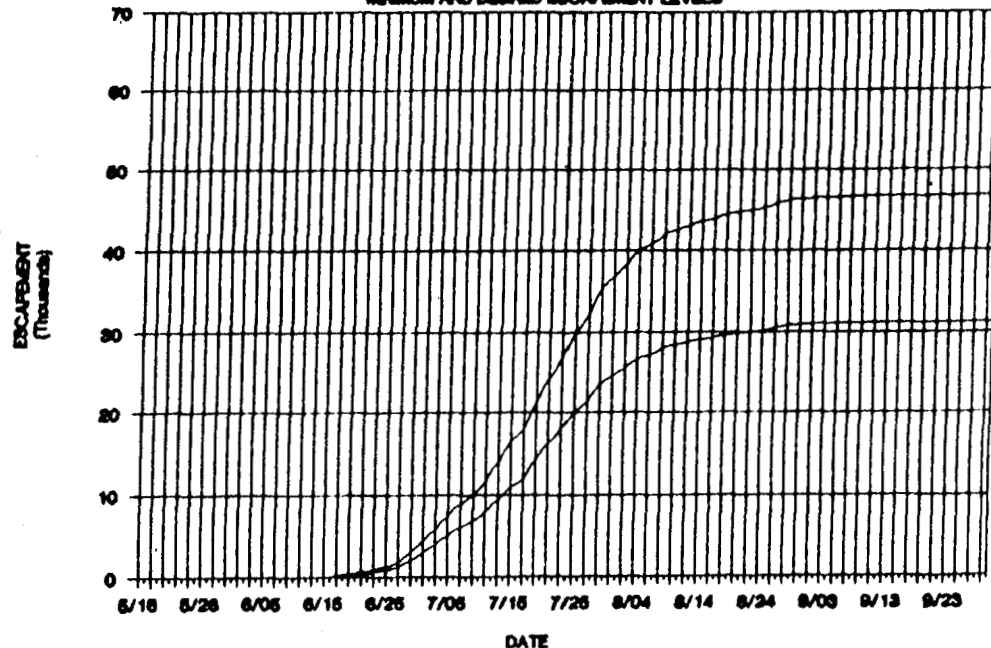
# DOG SALMON RIVER SOCKEYE SALMON

MINIMUM AND DESIRED ESCAPEMENT LEVELS



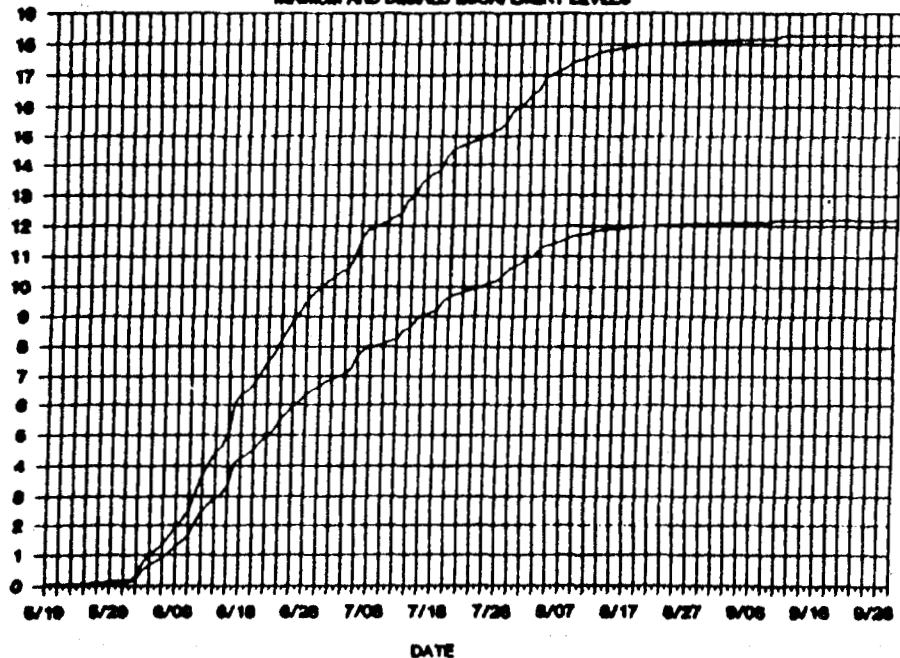
# SALTERY RIVER SOCKEYE SALMON

MINIMUM AND DESIRED ESCAPEMENT LEVELS



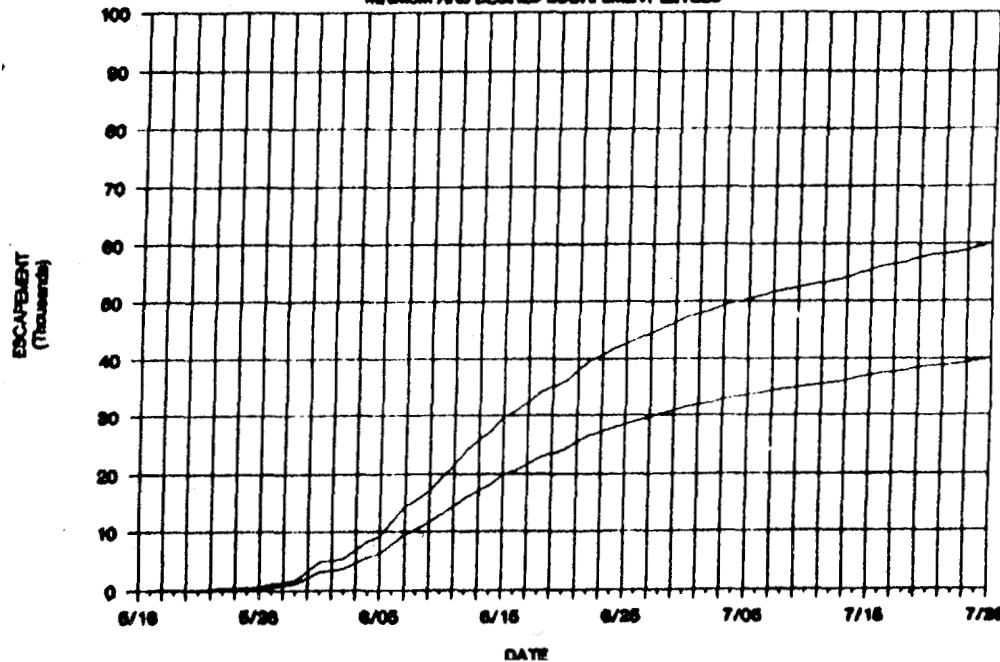
# BUSKIN SOCKEYE SALMON

MINIMUM AND DESIRED ESCAPEMENT LEVELS



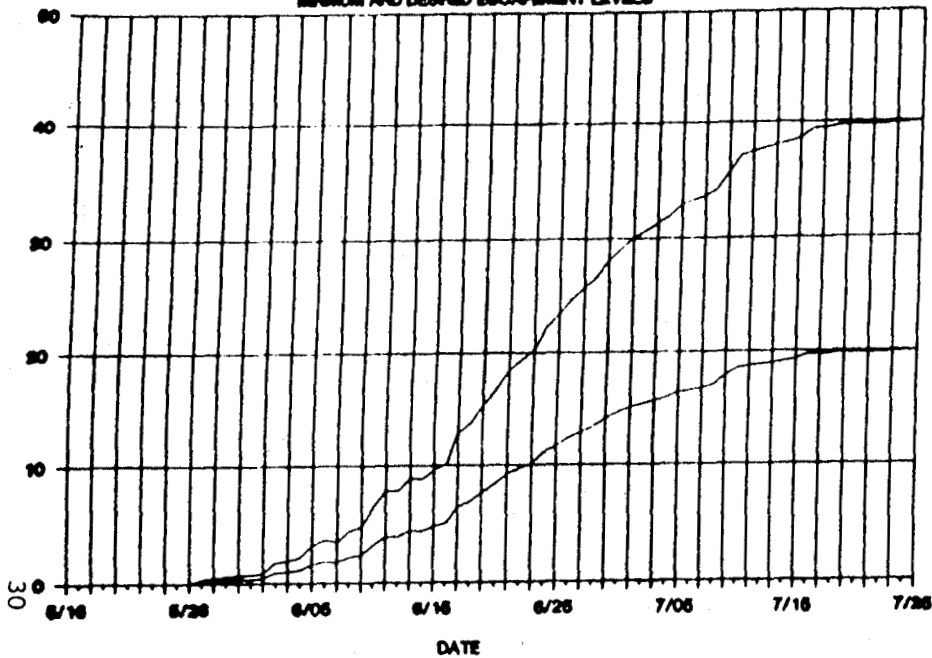
# LITNIK SOCKEYE SALMON

MINIMUM AND DESIRED ESCAPEMENT LEVELS



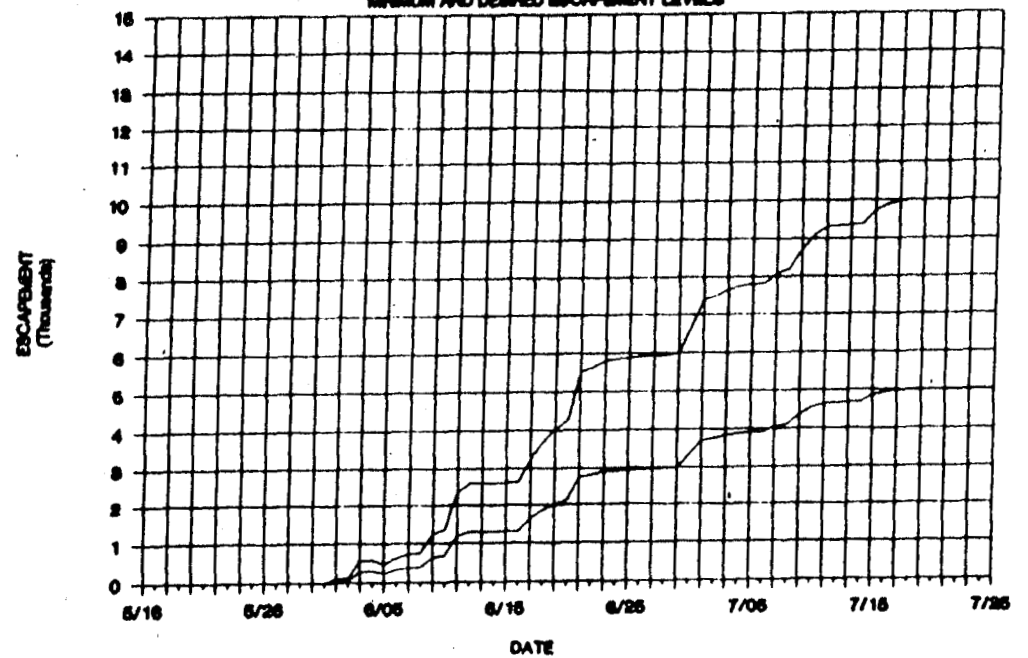
# PAULS BAY SOCKEYE SALMON

MINIMUM AND DESIRED ESCAPEMENT LEVELS



# THORSHEIM SOCKEYE SALMON

MINIMUM AND DESIRED ESCAPEMENT LEVELS







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